2026

GRADUATE PROSPECTUS

2026 GRADUATE PROSPECTUS

01

GIST Introduction

02

Admissions Information

03

Academic Departments

04

General Information

Major Achievements

2025 QS World University Rankings for 'Citations per Faculty'	2021 QS Top 50 Under 50	2024 THE Young University Rankings
4th in the World	30th in the World	40th in the World
1st in Korea (for 17 consecutive years)	3rd in Korea	4th in Korea

MIT International Collaborative Research

Project Period
2021~2025
(Total 5 years)

Jointly conducting AI-based convergence research (AI for X) with MIT, the world's top university in AI, to generate outstanding research outcomes and promote talent and international exchange

Project Details

- **International collaborative research in the AI+X field:** joint research between MIT researchers specializing in AI and GIST researchers with strengths in applied science
- **Fostering AI convergence talent:** operating personnel exchange programs to strengthen international competitiveness

Notable Research Outcomes

- 31 papers in the top 10% of SCI journals (total of 42 papers)
- 28 presentations at prestigious international conferences
- 13 domestic and international patents filed and registered (4 international, 9 domestic)

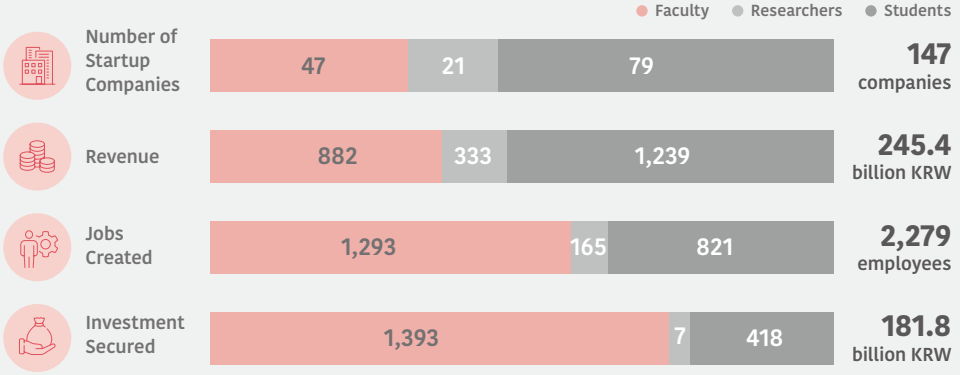
Development of World-Class Laser Plasma Technology

- Multifaceted application of ultra-high-power laser technology in space and defense fields
- **Achieved the world's highest intensity of 10^{23}W/cm²** through efficient spatiotemporal compression of a 4PW laser without additional power increase
- **Leading the field of ultra-high-power laser science globally** and contributing to the creation of new areas of physics research
- **Elevating Korea's basic science to a global level** through research in relativistic laser science

Entrepreneurship Achievements (Cumulative)

Ranked 1st
in Entrepreneurial Performance in the Maeil Business Newspaper University Entrepreneurship Index (2023)

Ranked 3rd
in Student Startup Support in Science and Engineering University Evaluation conducted by Korea Economic Daily (2021)



World First Achievements

First in the world to confirm ultrafast light-electron anisotropic interaction modulation

Laid the groundwork for large-area optoelectronic devices

Published in《Science Advances》(Jun. 2025)

· Anisotropic Strain Relaxation-Induced Directional Ultrafast Carrier Dynamics in RuO2 Films

First AI model in the world for generating genotype-tailored anticancer drugs

Presented a new solution for patient-tailored precision medicine and intractable cancers

Published in《Nature Communications》(Jul. 2025)

· A genotype-to-drug diffusion model for generation of tailored anti-cancer small molecules

First in the world to observe the real-time evolution of polymers into low-dimensional nanostructures

Published in《Matter》(May 2025)

· Decoding the evolution and dynamics of semicrystalline block copolymer assembly via liquid-phase transmission electron microscopy

Unveiled for the first time in the world, detection of low-spin W(III)-OH generated by proton-coupled electron transfer

Published in《Angewandte Chemie International》(May 2025)

· Hydrogen Bond-Assisted PCET and Formation of W(III)-OH in Bis(Dithiolene) complex

GIST Vision

A principal research institute in science and technology that creates better future value for humanity

Objective	World Universities Rankings Top 50		
Main Tasks	Education	Research	Performance Diffusion
	Producing 30,000 global science and technology graduates	Producing 30 global scholars	Producing 30 unicorn-level companies
	Establishing a full-cycle advanced science and technoogy talent development roadmap	Performing mission-oriented R&D and improving research quality	Spreading high value-added performance and creating value
Core Values	Global Asset	Insight for Innovation	Solution 4 Securities	Tolerance for Trust
Core Values Strategy	Potential-Up	Harmony-Up	Value-Up	

GIST at Present

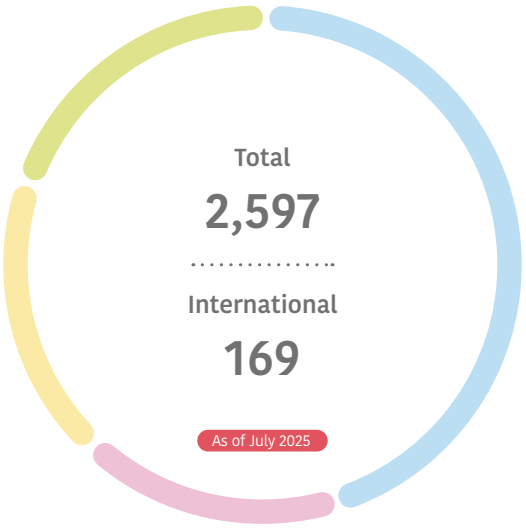
Faculty and Staff

As of July 2025

Faculty	206										
EECS	DMSE	DMRE	EEE	LS	DPH	DC	BMSE	AI	AIX	DSE	Other
24	21	17	23	22	16	22	11	22	3	5	20

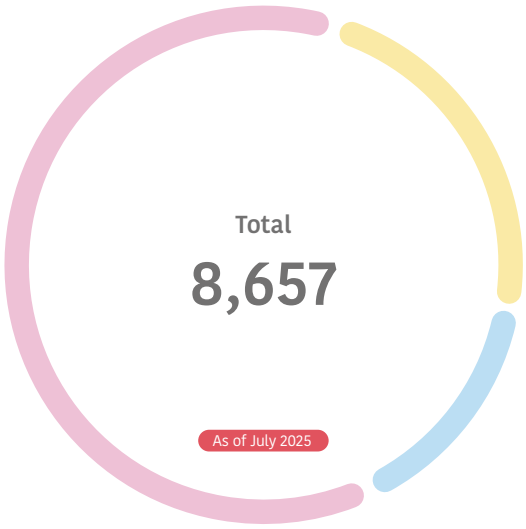
Research Scientist	Staff	Total
34	229	469

Student Enrollment



Classfication	B.S.	M.S.	Ph.D.	M.S / Ph.D.
Total	1,167	485	431	514
International	45	32	72	20

Graduates



B.S.	M.S.	Ph.D.
1,439	5,195	2,023

※ The student-faculty ratio at GIST 12:1 (2,471:206)

Abbreviations of Academic Units at GIST

EECS	Department of Electrical Engineering and Computer Science
DMSE	Department of Materials Science and Engineering
DMRE	Department of Mechanical and Robotics Engineering
EEE	Department of Environment and Energy Engineering
LS	Department of Life Sciences
DPH	Department of Physics and Photon Science

DC	Department of Chemistry
BMSE	Department of Biomedical Science and Engineering
AI	Department of AI Convergence
AIX	Graduate School of AI Policy and Strategy
DSE	Department of Semiconductor Engineering

High Quality Education

Small group learning

12:1

Ratio of student-to-faculty

Papers per year

6

An average of SCI journal papers per Ph.D. graduate for 2023

Opportunities for

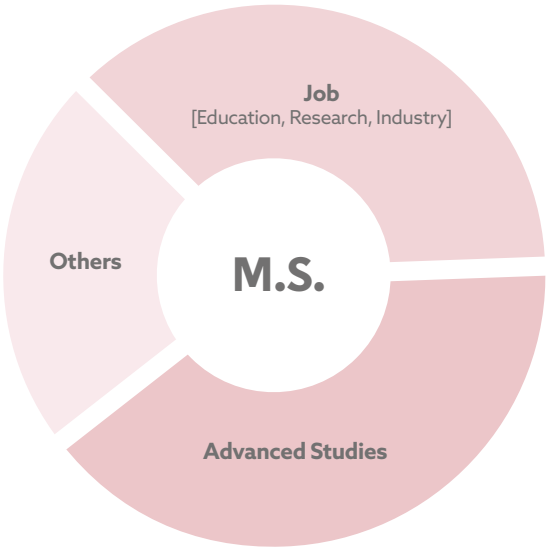
short/long-term overseas research

13% of Ph.D. graduates

are hired as tenure track faculty in major universities in Korea and overseas

Careers after Graduation

As of Feb. 2025



259 Out of 2,023 doctoral graduates have obtained full-time faculty positions at a number of universities throughout the world

QS World University Rankings 2025-Citation per Faculty index

Ranked in the world 4th

Ranked 1st in the Republic of Korea for 17 consecutive years

Rank	Institution	Country
1	Harvard University	United States
2	Anna University	India
3	Princeton University	United States
4	**Gwangju Institute of Science and Technology**	**South Korea**
5	California Institute of Technology (Caltech)	United States
6	City University of Hong Kong	Hong Kong SAR
7	Amirkabir University of Technology	Islamic Republic of Iran

Academic Policies

Graduation Time Limit

The institute offers M.S., Ph.D. and integrated M.S. and Ph.D. degree programs. Students are expected to maintain full-time student status and continuous enrollment until the completion of all requirements.

It normally takes two years to finish a M.S. program and four years for a Ph.D. program. The maximum completion period for the M.S., Ph.D. and M.S./Ph.D. programs are three years, seven years and eight years respectively.

Academic Year

The academic year consists of two semesters, each comprising 16 weeks of instruction. The first semester begins on the last week of February or on the first week of March. The second semester begins on the last week of August or on the first week of September.

Distinctive Academic Programs and Features

Intensive Education for Highly Qualified Students

· Research-oriented graduate programs

· Student-faculty ratio of 12 : 1

· Academic departments specializing in key areas of science and technology

Optimal Academic Environment

· All students are exempt from tuition fees

· Dormitories are provided for single students and apartments are provided for married couples on a first-come, first-served basis

· Practical courses are offered to meet the industrial field's needs

· Students' club activities and start-up businesses are encouraged

Financial Support

* Exchange Rate: 1 USD = 1380.1 KRW (as of Aug. 01, 2024)

Tuition Assistance

All Students

Tuition fully supported : KRW 3,805,000 per semester

Matriculation Fee Waiver

Applicable to some applicants

The one-time matriculation fee of KRW 680,000 will be charged to all newly enrolled students. Applicants who submitted the Matriculation Fee Waiver Form may be exempted from the fee only if his/her request is accepted by the admission committee of GIST.

Monthly Stipends

All International Students

- Student allowance (M.S.: 140,000/month, Ph.D. : 295,000/month)
- International student allowance (120,000/month)
- Meal allowance (100,000/month)
- Research assistantship (See detailed below)

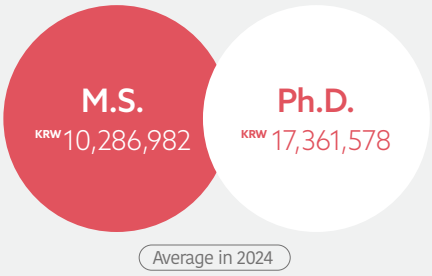
- Including the above allowances, a minimum monthly stipend of 800,000 won for M.S. students and 1,100,000 won for Ph.D. students is guaranteed.

Per year, average

Research Assistantship

Most students participate in research projects

※ The amounts shown are average values for 2024; actual amounts may vary depending on the specific projects in which students participate.



Average in 2024

Housing

All Students

Dormitory & Apartment (as of 2025, KRW)

* Housing fees may increase every year.

Accommodation	Room type (Bldg. #)	Monthly fees	
		2025	Deposit
Dormitory (Graduate)	Single (8)	153,100	150,000
	Double (1~7)	87,400	
	Double (9)	125,800	
Married Student Apartment	E / F	136,700	300,000
	E / F (Renovated)	202,300	600,000
	G	191,400	

* Utility fees are charged separately
* Additional costs may occur for wall papering or flooring

Health Insurance

All International Students

- 60% of the national insurance fee
- 100% of the annual medical checkup fee

Flight Reimbursement

All Incoming International Students

- Reimbursement for a one-way flight to Korea - One time only

Admissions Guide

Admission Schedule

Semester	Spring Semester (Begins in March)	Fall Semester (Begins in September)
Application Period	September 2 ~ October 2 (KST)	March 10 ~ April 10 (KST)
Examination of Documents	15 Days	15 Days
Documents Review	30 Days	30 Days
Notification of Admissions Result	December 4th, 2025	June 4th, 2026
Enrollment Deadline	January 5th, 2026	July 6th, 2026

※ The dates above are subject to change without prior notice.

Application Deadline

Spring Semester : October 2nd, 2025 (K.S.T.)
Fall Semester : April 10th 2026 (K.S.T.)
※ Late submission is not allowed.

Qualification

Applicants must hold citizenship outside South Korea.
※ Korean citizens who hold dual citizenship are not eligible for GIST International Graduate Admission.

Applicants who hold or expect to hold a final degree before enrollment at GIST
(**Spring Semester** : by 1st week of January | **Fall Semester** : by 1st week of July)

※ GIST does not accept the hope certificate, provisional certificate, or a confirmation letter of graduation as equivalent to a final degree certificate. Therefore, please consider your graduation(degree conferment) schedule first before you apply to GIST Graduate School.

※ Bachelor's degree must be equivalent to a Korean Bachelor's degree which requires four years of study
* Compare with the Korean system at WHED. (https://www.whed.net/)

Application Procedure

STEP 1

Submit the online application with required documents

Choose your field of study and complete all relevant sections of the online application form. The online application form is accessible at https://service.gist.ac.kr/admission/graduate/foreigner

Please use a computer with a Windows-based operating system.

All documents must be in English or Korean. Documents in a language other than English or Korean must be translated into either English or Korean by the institutions that issued those documents or by a public notary office.

※ Applicants who fail to submit required documents within the application deadline will be disqualified.
※ Before you begin, please click the 'Applications Guide' button, which can be found below the login button, to access and check the online application guidelines.

STEP 2

Check your email regularly

GIST Admission Team or the department you applied to may try to reach you for notification or an interview, if necessary.

STEP 3

Notification of the admission result

Notification of final result will be sent to the email address, which you registered in the online application system. Successful candidates must respond to the admission offer until the specific date that GIST provides.

STEP 4

Enrollment requires submission of enrollment document and paying the matriculation fee

If you decide to accept the admission offer of GIST Graduate School, you must submit the enrollment documents, which will be notified to successful candidates, via post and pay the matriculation fee by the registration(enrollment) deadline.

If the enrollment documents do not arrive at GIST Admission Team or the matriculation fee is not paid by the deadline, the admission offer will be revoked.

※ Students who are exempted from the matriculation fee also need to submit the enrollment documents by the enrollment deadline.

STEP 5

Submssion of verified academic certificates

Successful applicants must submit their original degree certificate and transcript, which are apostilled or authenticated by Korean Embassy, via post within 10 days after enrollment.

※ The verified documents submitted to GIST will not be returned. So, if the original academic certificate cannot be re-issued, please obtain apostille or consular confirmation on a certified copy.

Students who graduated from universities in China must submit the verification report issued by CSSD (学信网, http://www.chsi.com.cn)

STEP 6

Apply for a student visa

In order to apply for a student visa, you need to obtain a student visa application form. This form is available at the Embassy of the Republic of Korea in your home country. When you apply for a visa, you must attach the Certificate of Admission to the application form. After you receive your visa, you can contact the GIST International and Public Affairs Team or the department you applied to arrange your travel to Korea.

Required Documents

* All required documents must be uploaded to your online application, except for the recommendation letters.

Documents	Note
Submission of the online application https://service.gist.ac.kr/admission/graduate/foreigner · The online application system is optimized to the Windows operation system. Please use a computer with a Windows-based OS. · **Multiple applications** from a single applicant within a single application term **are strictly prohibited.** In the event that an applicant submits applications for more than one department or degree program, he/she shall be disqualified.	Compulsory
Official degree certificates and transcripts · For all undergraduate and graduate degree programs · A scanned copy bearing an apostille or duly authenticated by the Korean Embassy is preferred. · If you are expected to graduate, you can replace your degree or diploma with a certificate of the expected graduation or an official letter from your university confirming your expected graduation. The replacement must include your name, the degree to be conferred, and **the date of degree conferment.** If it omits any of those information, GIST will not accept the replacement. · Transcripts must include information of the grading system, courses completed, grades or marks earned, cumulative grade points average (CGPA) and personal rank(if possible). If the transcript does not indicate the grading scale, submit a supplementary document describing the university's grading system. · Applicants who graduated from universities in China must submit official degree and transcript with **verification report issued by CSSD** (学信网, http://www.chsi.com.cn)	
Two letters of recommendation	
An Official English proficiency test score report · Minimum scores: 80(TOEFL iBT), 550(TOEFL PBT), 6.5(IELTS Academic module), 750(TOEIC), 285(TEPS) ※ The English test must have been taken within two years prior to the application deadline. ※ Please be aware that GIST does not accept TOEFL ITP or Duolingo scores as valid proof of English proficiency.	
A copy of the applicant's passport	
A letter of recommendation from your department chair for the Matriculation Fee Waiver	If applicable
A certificate of English language proficiency issued by the president or the dean of the last school attended [for Conditional Admission only]	
Additional Reference · List of honors and awards with the documents to prove your academic achievements. · School profile of the university you attended or are attending. (It may include information about demography, programs, grading system, and ranking.)	

Study Plan in the Online Application Form

Your study plan is a very important part of your application and is reviewed with great care. We would like your statement to address your past and current professional experiences, your academic interests and objectives, and your future goals. In addition, please feel free to add any other relevant information. It is important that the statement of purpose is fully representative of who you are, how our program matches your academic needs, and what you will do after graduation.

Two Letters of Recommendation

Google Survey Form

We receive recommendation letters only electronically through Google Forms from the referees you register on GIST online application system.

In the online application form, you will be required to fill in the information of your referees. Then, if you click the “Send a Recommendation Form” button, each of the two referees will receive an automated email regarding how to upload a recommendation letter through the Google Forms.

Before you click the button, please double-check the referees’ email addresses are correct. If those are not correct, your referees cannot receive the automated email from GIST.

Referees must use the designated recommendation form and upload their recommendation letters on Google Forms by the application deadline.

People who have worked closely with you in either academic or professional field such as faculty members or work supervisors are eligible for writing the recommendation letter.

If the referee information you entered in the online application form or the submitted recommendation letter is found to be false or counterfeit, GIST reserves the right to withdraw an offer of admission or revoke your admission even after having graduated from GIST.

Important Notes

If any information entered in the online application form or the submitted material is found to be false or counterfeit, GIST reserves the right to withdraw an offer of admission or revoke your admission even after having graduated from GIST.

Applicants are responsible for any submission errors or mistakes that fail to adhere to the admission guide.

Please check your email regularly. GIST Admission Team or the department you applied to may try to reach you for notification or an interview, if necessary.

GIST will notify the application result to each applicant by email on the result notification day.

Successful applicants whose graduation was pending at the time of application must submit their final degree certificate and transcripts—apostilled or authenticated by Korean Embassy—within 10 days after the enrollment deadline. Failure to submit these documents may result in the cancellation of enrollment.

GIST Graduate School strictly prohibits multiple enrollments. All admitted students must have completed their degree programs before enrollment in GIST, and must not enroll in other institutions or universities until they complete their degree programs at GIST.

English Requirements

Conditional Admission

Because English is the language of instruction at GIST, applicants are required to submit an official English test score as part of their application. Applicants who hold a bachelor's degree or higher from a university or institution physically located in Australia, Canada, Ireland, New Zealand, the UK or the USA may be exempted from this English requirement with prior approval from GIST.

In general, the minimum TOEFL score required for GIST graduate programs is 80 of IBT, 550 of PBT. We also accept the score of IELTS, TOEIC and TEPS(Test of English Proficiency developed by Seoul National University). The minimum score for acceptance is 6.5 of IELTS, 750 of TOEIC and 285 of New TEPS.

Applicants from countries that do not hold official English tests(TOEFL, IELTS, TOEIC or TEPS) or other applicants for whom it is not possible to take such tests owing to unavoidable circumstances, such as schedule conflicts or excessive economic burden, may apply without official English test score as a conditional admission. Conditional admission requires applicants to submit documentation related to English proficiency issued **by the President or the Dean** of the last school attended. There is no specific form of the certificate of English language proficiency, but it must indicate that **the medium of instruction was English.**

Successful students admitted to GIST with conditional admission due to unavailability of official English test results must, within 6 months from the date of admission, submit official English test results that meet the application criteria of GIST. These results should be sent to the Section of Admissions and receive approval from our Academic Affairs Review Committee. Any persons who have been conditionally admitted to GIST, but fail to fulfill the requirements stated above, will automatically be removed from the school register 6 months after the date of admission.

We strongly encourage you to take an official English test and submit the score result when you apply to GIST graduate school. Some Embassies of the Republic of Korea may ask you to submit the official English test score for visa application.

Matriculation Fee

To complete the enrollment process at GIST, all admitted students are required to pay a non-refundable Matriculation Fee of 680,000 won. Successful applicants must pay the fee by the enrollment deadline.

Matriculation Fee Waiver Application

GIST offers applicants who are facing financial difficulty matriculation fee waiver. If you cannot afford the matriculation fee due to extreme poverty, please submit a recommendation letter of matriculation fee waiver **written by the department chair** of your last attended/current university via the online application system. Also, it is important to click the "Application for matriculation fee waiver" button on the online application form to ensure that the system recognizes your request.

The Document Review and Evaluation

GIST welcomes applications from candidates who demonstrate strong academic potential, high motivation to pursue a career in science and technology, and well-defined intellectual and professional interests.

An applicant's study plan, professional experience, and letters of recommendation are important components of the evaluation, alongside academic knowledge and background. While strong academic records and high test scores are valuable, they do not guarantee admission. Other achievements—such as overcoming economic, social, or educational obstacles—are also taken into significant consideration.

The document review involves comparing each applicant's qualifications against those of all other candidates. The admissions committee then evaluates general criteria in a manner that supports diversity in student backgrounds, experiences, and interests. Each year, the number of applicants far exceeds the number of available spots, making the selection process a complex task that requires careful evaluation of both past accomplishments and future potential.

Appendix 1

Recommendation Form

Letter of Recommendation

1. Please fill this form and make a **handwritten signature** at the bottom of the last page.
   * You can extend the size of answer boxes for the question # 1~5, 7
   * A referee can download this LOR form of Word file at the Google Survey Form.
2. Then, please scan the signed document and **make the file name as** "GIST application number_Student's name_Nationality _Referee's name".
3. Finally, please **upload** it to the Google Survey Form we provided on the instruction email.

[Note] You can upload only one recommendation letter on the Google Survey Form. So, if you are going to upload a recommendation letter for more than two applicants, please **use a different email address** for each applicant when you take the Google Survey.

Applicant Information(the recipient of your recommendation)	
· Student Name:	· GIST Application Number (9******):
· Nationality:	· Desired Program(√): ☐ M.S. ☐ Ph.D. ☐ M.S./Ph.D.
· Date of Birth:	· Intended Department:

1. How long have you known the applicant and in what context?

2. What do you consider to be the applicant's strengths?

3. What do you consider to be the applicant's weaknesses?

4. How well do you think the applicant has thought out plans for graduate study?

5. Do you know of any medical or psychological condition which might affect the applicant's performance?

Appendix 1

Recommendation Form

Letter of Recommendation

6. Please give us your appraisal of the applicant in terms of the qualities listed below. Please rate the applicant in comparison to other students known to you on the following dimensions. Tick (√) the appropriate box.

	Unusually outstanding (Top 5%)	Superior (Top 10%)	Excellent (Top 15%)	Good (Top 3rd)	Average (Middle 3rd)	Poor (Bottom 3rd)
Academic Achievements						
Intellectual Skills						
Research and Creative Abilities						
Interests and Motivations						
Relevant Work Experience						
Ability to Work with Others						
Potential for Success in Graduate School						

7. Please comment on the ratings that you have assigned in #6 and make any additional statement about the applicant's record, potential, or personal qualities.

I hereby duly recommend the aforementioned applicant. I have carefully filled out this letter of recommendation by myself, and I am aware that my opinions provided herein may continue to serve as a reference in the subsequent admission process within GIST.

· Name:

· University / Institute:

· Position / Title:

· Phone number(with a national code):

· E-mail Address:

· Signature: (here)

· Date: _____. _____. _____. ex) YYYY. MM. DD.

Appendix 2

Matriculation Waiver application Form Optional

A Letter of Recommendation for the Matriculation Fee Waiver

To the Applicant:

Please fill in your information below, and deliver this form to the person who will write a letter for you. After you receive the LOR for matriculation fee waiver from him/her, please upload it in the online application system.

Applicant Information
· GIST Application Number:
· Name:
· Nationality:
· Desired Program(■): ☐ M.S. ☐ Ph.D. ☐ M.S./Ph.D.
· Intended Department:

To the Recommender:

Please fill the answer by typing in with your computer, and then print out to handwrite the signature.

* We do not accept an electronic signature or a stamp.
* We only accept a recommendation letter of matriculation fee waiver that is written by the **department chair** of the applicant's last attended university.

Why should this applicant be exempt from paying the Matriculation Fee?

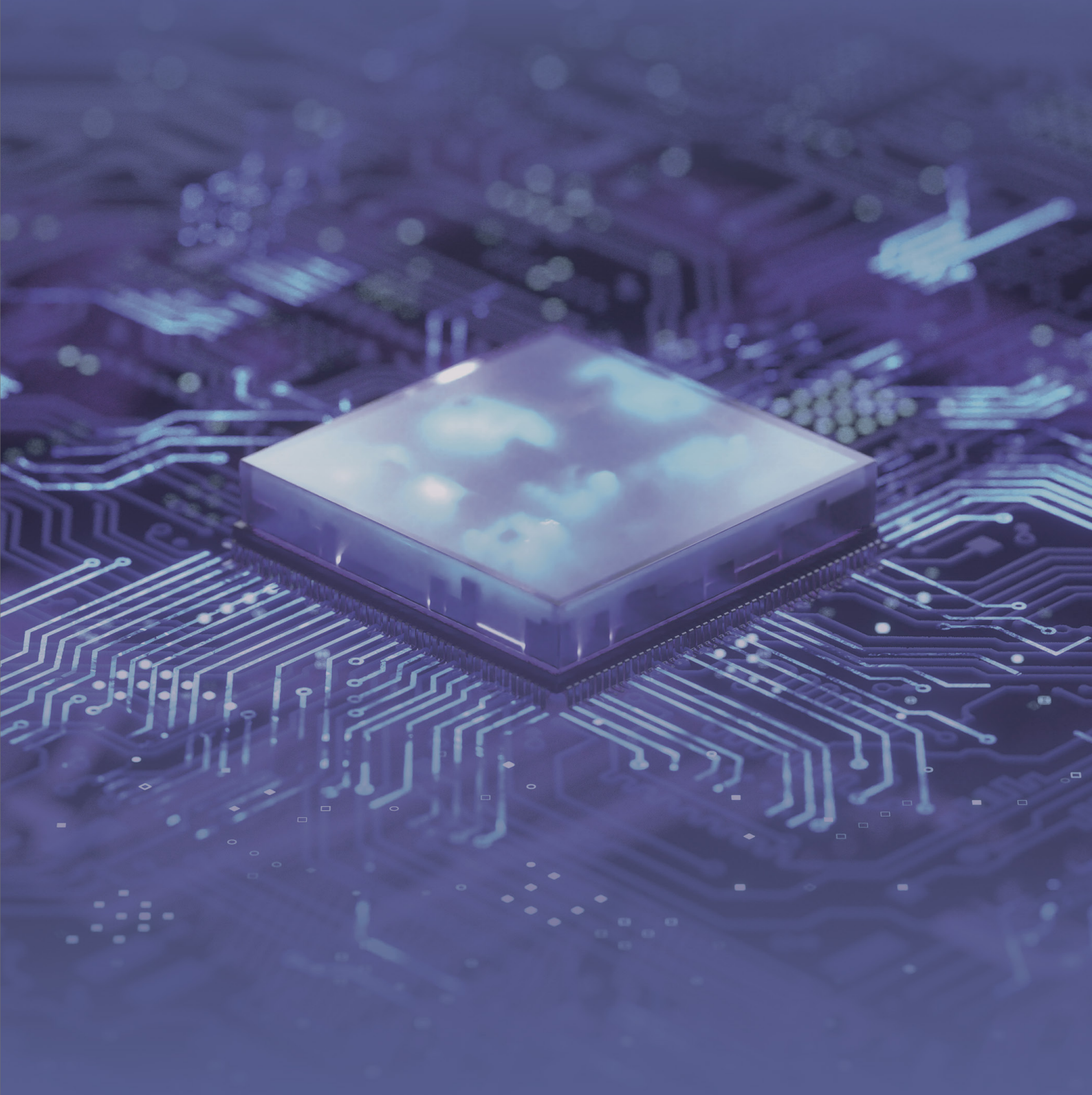
I hereby duly recommend the aforementioned applicant, and I have carefully filled out this letter of recommendation for matriculation fee waiver.

Recommender Information
· Name:
· Position/Title:
· University:
· Phone Number:
· E-mail Address:

· Signature: (here)
· Date: _____. _____. _____. ex) YYYY. MM. DD.

Academic Departments

- Department of Electrical Engineering and Computer Science
- Department of Semiconductor Engineering
- Department of Materials Science and Engineering
- Department of Mechanical and Robotics Engineering
- Department of Environment and Energy Engineering
- Department of Life Sciences
- Department of Physics and Photon Science
- Department of Chemistry
- Department of Biomedical Science and Engineering
- Department of AI Convergence
- Graduate School of AI Policy and Strategy

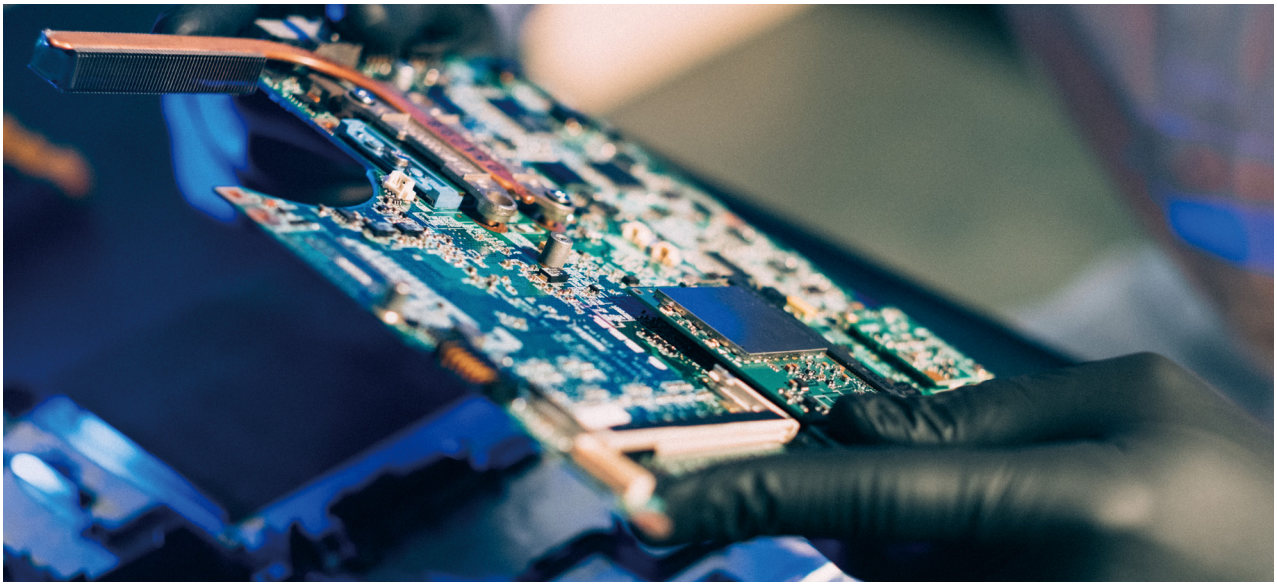


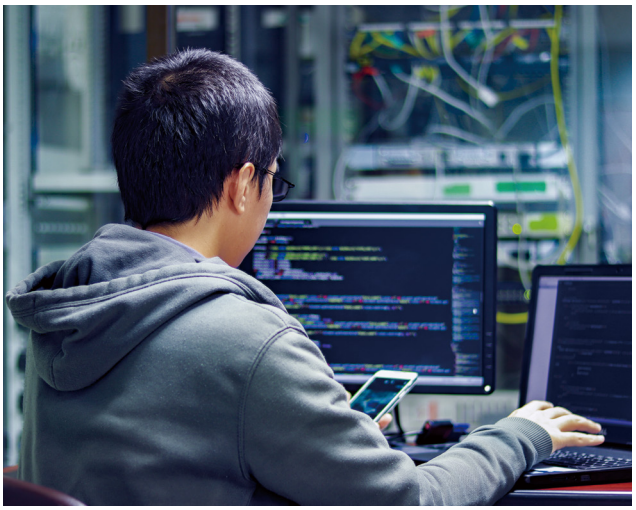
Department of

Electrical Engineering and Computer Science

+82-62-715-2202 eecs@gist.ac.kr https://eecs.gist.ac.kr

Department of **Electrical Engineering and Computer Science**





The Department of Electrical Engineering and Computer Science (EECS) aims to lead in the research of innovative technologies in ICT-based convergence fields to prepare for the era of future creation and to foster creative global talents. To achieve this goal, the school is leading research in various areas, including artificial intelligence and data science, signal processing and networks, computer and software engineering, energy systems and sensors, circuits and systems, semiconductor devices, and photonics and nanotechnology. These technologies are expected to lead the global market in the future, with significant added value and socio-economic effects, driving new industries.

The Department focuses on education and research in the fields of electronics, including information, communication, semiconductors, and optics, and computer science, including computation and algorithms, to meet the demands of the era, such as artificial intelligence (AI), large language model (LLM), and AI semiconductors. Accordingly, it aims to produce creative cooperative research through graduate students with diverse degrees (electrical, electronics, computer, information, communication, control measurement, mechanical, physics, chemistry, mathematics, statistics, industrial engineering) to promote the research and development of future core technologies and their practical diffusion. It also aims to produce scientific and technological leaders in academia and industry, leading the future of the country.

To achieve this, group research is conducted with 3 to 7 professors in each research area to improve the efficiency and competitiveness of research. Furthermore, the Department actively responds to emerging interdisciplinary fields through fusion research with related academic fields. In the EECS major, students are educated to deeply and widely understand the extensive scientific knowledge accumulated by humanity, develop thorough analytical and creative design skills through various major courses, and cultivate the ability to creatively solve problems by integrating various knowledge and experiences acquired in related fields such as AI and semiconductors through individual and graduation research. The goal of education is to nurture students who can successfully pursue careers in graduate school, IT, AI, electronics, and communication industries, research institutes, and universities as professors.

Photonics and Nanotechnology

- Applied Optics
- NanoSystems
- Photon Information Processing

Circuits and System

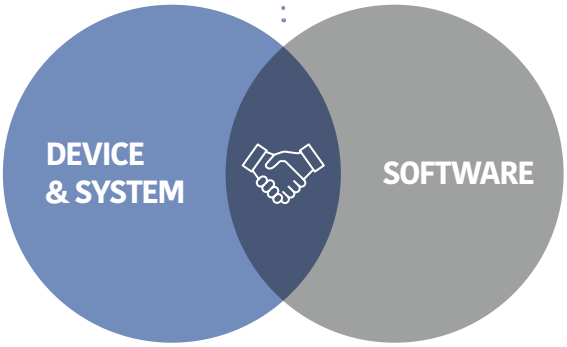
- Analog and Mixed-signal Integrated Circuit Design
- Microwave Sensing & Imaging
- Integrated Circuits and Systems
- Integrated Circuits Design
- OPTIMUS

Signal Processing and Networks

- Speech and Audio Processing
- Audio intelligence Technology and Research
- Communication & Information Science
- INFONET
- Intelligent Information Systems
- Intelligent Vision

Energy Systems and Sensors

- Microwave Sensing & Imaging
- Integrated Circuits and Systems
- Integrated Circuits Design
- Power System Economics & Management
- OPTIMUS
- Mobile Power Electronics



Computer and Software Engineering

- Machine Learning and Vision

Semiconductor Devices

- Applied Optics
- NanoSystems
- AI-Semiconductor
- Semiconductor Device Simulation

AI and Data Science

- Audio intelligence Technology and Research
- Power System Economics & Management
- Machine Learning and Vision
- Bioinformatics and Intelligence
- Speech and Audio Processing
- INFONET
- AI-Semiconductor
- Intelligent Information Systems
- OPTIMUS
- Intelligent Vision

Faculty

NAME	EDUCATION	E-MAIL	PHONE
Hwang, Eui-seok Professor	**Carnegie Mellon University** Ph.D. in Electrical & Computer Engineering	euiseokh@gist.ac.kr	+82-62-715-3223
Ham, Byoung-Seung Professor	**Wayne State University** Ph.D. in Electrical and Computer Eng.	bham@gist.ac.kr	+82-62-715-2642
Hong, Sung-Min Associate Professor	**Seoul National University** Ph.D. in Electrical Eng. & Computer Sci.	smhong@gist.ac.kr	+82-62-715-2640
Jeon, Moon-Gu Professor	**Univ. of Minnesota** Ph.D. in Scientific Computation	mgjeon@gist.ac.kr	+82-62-715-2406
Jeong, Hyeon-Ho Associate Professor	**Max Planck Institute** Ph.D. in Materials	jeong323@gist.ac.kr	+82-62-715-2236
Jho, Young-Dahl Professor	**Seoul National Univ.** Ph.D. in Physics	youngdahl-jho@gist.ac.kr	+82-62-715-2230
Kim, Yun-su Professor	**Seoul National University** Ph.D. in Electrical Engineering and Computer Science	yunsukim@gist.ac.kr	+82-62-715-5327
Kim, Kangwook Professor	**Georgia Institute of Technology** Ph.D. in Electrical & Computer Engineering	mkkim@gist.ac.kr	+82-62-715-3226
Kim, Hong-Kook Professor	**Korea Advance Inst. of Sci. and Tech.** Ph.D. in Electrical Eng.	hongkook@gist.ac.kr	+82-62-715-2228
Kim, Jinho Professor	**Seoul National University** Ph.D. in Electrical Engineering and Power System Economics	jeikim@gist.ac.kr	+82-62-715-5322

NAME	EDUCATION	E-MAIL	PHONE
Lee, Byung-Geun Professor	**University of Texas at Austin** Ph.D. in Electrical and Computer Engineering	bglee@gist.ac.kr	+82-62-715-3231
Lee, Byeong-Ha Professor	**Univ. of Colorado at Boulder** Ph.D. in Physics, Optics	leebh@gist.ac.kr	+82-62-715-2234
Park, Yongsoon Associate Professor	**Seoul National University** Ph.D. in Electrical Engineering and Computer Science	yongsoon@gist.ac.kr	+82-62-715-5326
Lee, Heung-No Professor	**University of Californial, Los Angeles** Ph.D. -Electrical Engineering	heungno@gist.ac.kr	+82-62-715-2237
Lee, Min-Jae Professor	**Univ. of California, Los Angeles** Ph.D. in Electrical Engineering	minjae@gist.ac.kr	+82-62-715-2205
Nam, Ho-Jung Professor	**Korea Advanced Inst. of Sci. and Tech** Ph.D. in Bio and Brain Eng.	hjnam@gist.ac.kr	+82-62-715-2641
Shin, Jong-Won Professor	**Seoul National University** Ph.D. in Electrical Eng. & computer Sci.	jwshin@gist.ac.kr	+82-62-715-2235
Soh, Jae Woong Assistant Professor	**Seoul National University** Ph.D. in Electrical and Computer Engineering	jaewoongsoh@gist.ac.kr	+82-62-715-2643
Yi, Il Min Assistant Professor	**POSTECH** Ph.D. in Electrical Engineering	ilmin.yi@gist.ac.kr	+82-62-715-2642
Yu, Nam-Yul Professor	**University of Waterloo** Ph.D. in Electrical & Computer Engineering	nyyu@gist.ac.kr	+82-62-715-3716

Labs

Intelligent Information Systems Laboratory
Ph.D. Hwang, Eui-seok https://iis.gist.ac.kr/isp/

Photon Info. Processing Laboratory
Ph.D. Ham, Byoung-Seung https://www.pipgist.net/

Semiconductor Device Simulation Laboratory
Ph.D. Hong, Sung-Min https://sites.google.com/view/gist-sdsl/

Machine Learning & Vision Laboratory
Ph.D. Jeon, Moon-gu https://sites.google.com/view/mlv

NanoSystems Laboratory
Ph.D. Jeong, Hyeon-Ho https://sites.google.com/view/nanogist

Artificially Intelligent Semiconductors Laboratory
Ph.D. Jho, Young-Dahl http://ai-s.gist.ac.kr

Power Systems Laboratory
Ph.D. Kim, Yun-su https://psl.gist.ac.kr

Microwave Sensing & Imaging Laboratory
Ph.D. Kim, Kangwook http://em.gist.ac.kr

Audio Intelligence technology and research Laboratory
Ph.D. Kim, Hong-Kook https://sites.google.com/view/gist-aiter

Analog & Mixed-signal Integrated Circuits Design Laboratory
Ph.D. Lee, Byung-Geun http://analog.gist.ac.kr

Applied Optics Laboratory
Ph.D. Lee, Byeong-Ha http://aolab.gist.ac.kr

Power System Economics & Management Laboratory
Ph.D. Kim, Jinho https://psel.gist.ac.kr/psel/

INFOrmation sensing, processing, controlling, and NETworking Laboratory
Ph.D. Lee, Heung-No https://heungno.net/

Integrated Circuits and Systems Lab
Ph.D. Lee, Min-Jae https://sites.google.com/view/icsl/icsl

Bioinformatics and Intelligence Laboratory
Ph.D. Nam, Ho-Jung https://www.biil-gist.net/

Speech and Audio Processing Laboratory
Ph.D. Shin, Jong-Won https://sapl.gist.ac.kr/

OPTIMUS Laboratory
Ph.D. Park, Yongsoon https://optimus.gist.ac.kr/

Integrated Circuit Design Laboratory
Ph.D. Yi, Il Min https://sites.google.com/view/gist-icdl

Communication and Information Science Laboratory (CISL)
Ph.D. Yu, Nam-Yul https://sites.google.com/site/informationsciencelab/

Intelligent Vision Laboratory
Ph.D. Soh, Jae Woong https://sites.google.com/view/gist-ivl

Student Interviews

Name **Yang Azevedo Tavares**
Nationality **Brazil**
Program **Integrated M.S./Ph.D.**

How long have you been studying at GIST?

2018 I came to GIST to participate in the Global Internship Program (GIP). The positive experience prompted me to return in 2019 and enroll as an integrated M.S./Ph.D. student. Consequently, I have been studying at GIST for approximately five years.

What made you choose to study at GIST?

During my undergraduate program in Brazil, I developed an interest in circuit design research, which I thoroughly enjoyed studying. Additionally, while participating in an exchange program in the USA, I had the good fortune of meeting my Korean wife. Upon returning to Brazil, my previous advisor informed me about the GIST global internship program, which immediately caught my interest. South Korea stands out as one of the leading countries in semiconductor technology, among other fields. Thus, I knew that coming to South Korea would present me with new opportunities and allow me to immerse myself in advanced technologies. It was also a chance to be closer to my wife.

Upon arriving at GIST, I quickly realized that there was much more to gain for my career than I initially anticipated. During my internship program, I had the opportunity to experience the Korean way of life and working culture firsthand. The people in my assigned lab were polite, kind, and helpful. Initially, I thought that their warm welcome was due to me being a newcomer, but I soon discovered that this behavior was characteristic not only of GIST but of South Korea as a whole. The people here are hardworking and focused, creating an environment conducive to achieving my research goals efficiently.

Moreover, Professor Minjae Lee has been an exceptional advisor from the beginning, providing me with the necessary resources and knowledge to make the most of my two-month internship. As a result, I was able to publish a conference paper on the newly assigned topic within that timeframe. In addition to GIST's excellent environment for career development, South Korea is home to some of the world's top technology companies, such as Samsung and LG, which maintain close relationships with universities and foster a strong industry-academia collaboration that greatly benefits researchers like myself. Among many other reasons, these factors led me to choose to study at GIST.

What are the best things about GIST?

Studying in South Korea offers a wide range of benefits. At GIST, I can also experience an excellent academic environment that strongly supports intensive research development. The laboratory provides all the necessary resources to carry out my research without hesitation. Furthermore, the working relationship with professors and lab mates is highly efficient. The industry-academia relationship in GIST labs is great for developing cutting-edge research. Moreover, GIST is recognized as one of the top universities in the world. The dormitories are conveniently located near research facilities, and the campus is situated in a neighborhood with various restaurants and recreational activities. The GIST staff is also exceptionally kind and helpful.

Are you satisfied with the support you receive from GIST?

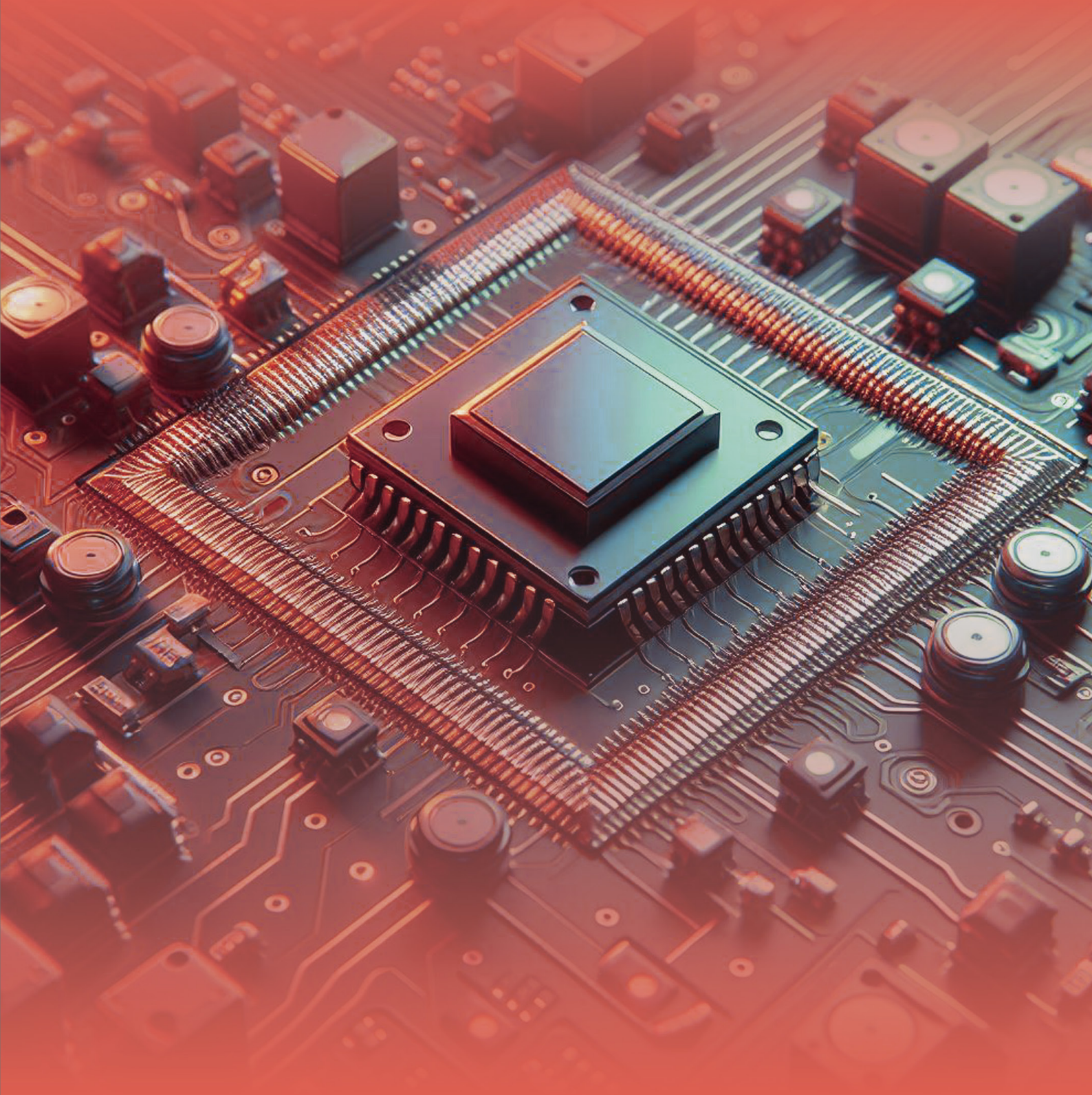
I am extremely satisfied with the support provided by GIST, both from the research lab and the GIST staff themselves. Furthermore, the support I receive from GIST is sufficient to enable me to focus on my studies without having to worry about living expenses, medical needs, visa paperwork, and other related expenses. Issues are promptly and efficiently resolved.

What are your plans in terms of future studies and/or career after you complete your time at GIST?

Having lived in South Korea for nearly 5 years, I have had the opportunity to experience an excellent work environment that promotes intensive career growth. South Korea is home to some of the world's leading technology companies, which is why I am extremely eager to apply for a job in this country.

What advice would you give to new applicants hoping to enter a program at GIST?

People who apply to GIST should have a highly study-intensive mindset. The hardworking environment is twofold. In order to fulfill graduation requirements and achieve lab research goals, the lab will demand a significant amount of your energy and time. However, every effort you put in will be proportionally returned with great research results. Being one of the top universities, I believe GIST expects diligent and hardworking students. Similarly, graduate life in this environment requires self-autonomy, which is different from simply following a step-by-step tutorial for graduation. I believe GIST is amongst the best technology-oriented universities in the world and is a great environment to extract the best of someone's academic goals.



Department of

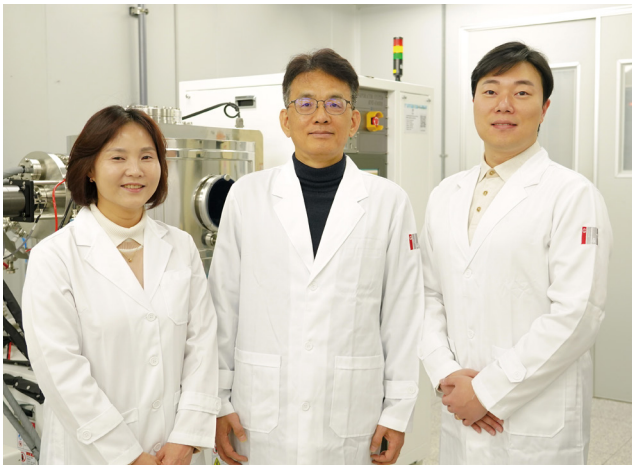
Semiconductor Engineering

+82-62-715-3752 / 3753

semi@gist.ac.kr

https://semi.gist.ac.kr/semi/

Department of **Semiconductor Engineering**



The Department of Semiconductor Engineering at the Gwangju Institute of Science and Technology is leading cutting-edge semiconductor technology research. In an era of competition for supremacy of semiconductor technology that requires hyperscaling due to the collapse of Moore's Law, advanced semiconductor technology is in demand to go beyond the traditional approach of reducing the size of device structures or increasing the number of transistors. Transistor architecture paradigms constantly evolve to increase information density, data processing capacity, and energy efficiency in a wafer footprint. As silicon reaches its physical property limits, two-dimensional materials must be introduced within the Complementary Metal Oxide Semiconductor (CMOS) process for effective gate control. Accordingly, we are focused on contributing to the evolution of device architectures that transcend the current state-of-the-art Silicon technologies, encompassing artificial intelligence and quantum computing, ultimately enabling their integration of monolithic systems into CMOS processes. Our research covers various fields such as physics, chemistry, materials science, electronics, and nanotechnology to promote the development of novel semiconductor technologies, such as high-quality materials, high-performance devices, advanced device applications, ultra-fine cutting-edge processes, memory and logic computing systems, etc. Therefore, our graduate school covers research fields encompassing semiconductor materials, devices, processes, systems, and integrated circuits, which will lead the next- generation semiconductor industry. These include electronic/optoelectronic applications, artificial intelligent semiconductors, and quantum computing hardware. To lead such research, our graduate school has several nanofabrication facilities: (1) GAIA (GIST Advanced Institute of Instrumental Analysis) as an integrated management system for upgrading cutting-edge research equipment and equipment operating systems, (2) GNICS (GIST Nano Infra for Compound Semiconductors) for compound semiconductors and optoelectronics, capable of central front-end-of-line processing such as thin film, exposure, etching, analysis, etc. (3) AI Semiconductor Advanced Processing Fab under building to support heterogeneous integration and fan-out packaging for developing next-generation artificial intelligence semiconductors. To this end, we aim to foster global convergence talents and semiconductor experts who will lead national competitiveness in academia and industry. Accordingly, we encourage creative, collaborative research by graduate students with degrees in various fields to develop future key source technologies and promote their practical expansion through exchanges with the semiconductor industry.

Semiconductor Device and Fabrication Process

- Advanced Nano Electronics and Photonics Technology
- Flexible Opto Electronics
- Desirable Electronic Devices and Advanced Nano Materials
- Quantum Materials Interfaces and Nano Devices
- Solid State Lighting
- Nano System
- Heat-Smart Optoelectronics and Phonon Engineering
- Semiconductor Device Simulation Laboratory

Semiconductor System and Integrated Circuit Design

- Integrated Circuits and Systems
- Analog and Mixed-Signal Intergrated Circuit Design
- Applied Optics
- Integrated Circuit Design

Faculty

NAME	EDUCATION	E-MAIL	PHONE
Hong, Sung-Min Associate Professor	**Seoul National University** Ph.D. in Electrical Eng. & Computer Sci.	smhong@gist.ac.kr	+82-62-715-2640
Jeong, Hyeon-Ho Assistant Professor	**Max Planck Institute** Ph.D. in Materials	jeong323@gist.ac.kr	+82-62-715-2236
Jho, Young-Dahl Professor	**Seoul National Univ.** Ph.D. in Physics	jho@gist.ac.kr	+82-62-715-2230
Kang, Dong-Ho Assistant Professor	**Univ. of Sungkyunkwan** Ph.D. in Electrical and Computer Engineering	donghokang@gist.ac.kr	+82-62-715-2638
Kwon, Dong-Seok Assistant Professor	**Seoul National Univ.** Ph.D in Electrical and Computer Engineering	dongseokkwon@gist.ac.kr	+82-62-715-3767
Lee, Byeong-Ha Professor	**Univ. of Colorado at Boulder** Ph.D. in Physics, Optics	leebh@gist.ac.kr	+82-62-715-2234
Lim, Hyunseob Associate Professor	**Pohang University of Science and Technology** Ph.D in Chemistry	hslim17@gist.ac.kr	+82-62-715-4634
Lee, Dong-Seon Professor	**University of Cincinnati** Ph.D. Electrical & Computer Eng./Computer Science	dslee66@gist.ac.kr	+82-62-715-2248
Lee, Min-Jae Professor	**Univ. of California, Los Angeles** Ph.D. in Electrical Engineering	minjae@gist.ac.kr	+82-62-715-2205
Shin, Hyeon Jin Associate Professor	**Sungkyunkwan University** Ph.D in Nano Science	hyeonjin.shin@gist.ac.kr	+82-62-715-3761
Yi, Il Min Assistant Professor	**POSTECH** Ph.D. in Electrical Engineering	ilmin.yi@gist.ac.kr	+82-62-715-2642
Yoon, Hoon Hahn Assistant Professor	**Ulsan National Institute of Science and Technology** Ph.D in Physics	hoonhahnyoon@gist.ac.kr	+82-62-715-3764

Labs

Semiconductor Device Simulation Laboratory
Ph.D. Hong, Sung-Min https://sites.google.com/view/gist-sdsl

NanoSytems Laboratory
Ph.D. Jeong, Hyeon-Ho https://sites.google.com/view/nanogist

Artificially Intelligent Semiconductors Laboratory
Ph.D. Jho, Young-Dahl https://ai-s.gist.ac.kr/

Advanced Nano Electronics and Photonics Technology Laboratory
Ph.D. Kang, Dong-Ho https://sites.google.com/view/gist-dhkang/home

Future Computing Devices Lab
Prof. Kwon, Dong-Seok https://sites.google.com/view/fcdlab/home

Applied Optics Laboratory
Ph.D. Lee, Byeong-Ha https://eecs.gist.ac.kr/aolwebsite/index.do

Nanoscale Surface Chemistry Lab
Prof. Lim, Hyunseob https://tetoslim.wixsite.com/nscl

Solid-State Lighting Laboratory
Ph.D. Lee, Dong-Seon https://eecs.gist.ac.kr/ssll/index.do

Integrated Cicuits and Systems Laboratory
Ph.D. Lee, Min-Jae https://sites.google.com/view/icsl

DisRuptive Electronic-devices & Advanced nano-Materials Laboratory
Ph.D. Shin, Hyeon Jin https://sites.google.com/view/gist-dream-hjshingroup/home

Integrated Circuit Design Laboratory
Ph.D. Yi, Il Min https://sites.google.com/view/gist-icdl

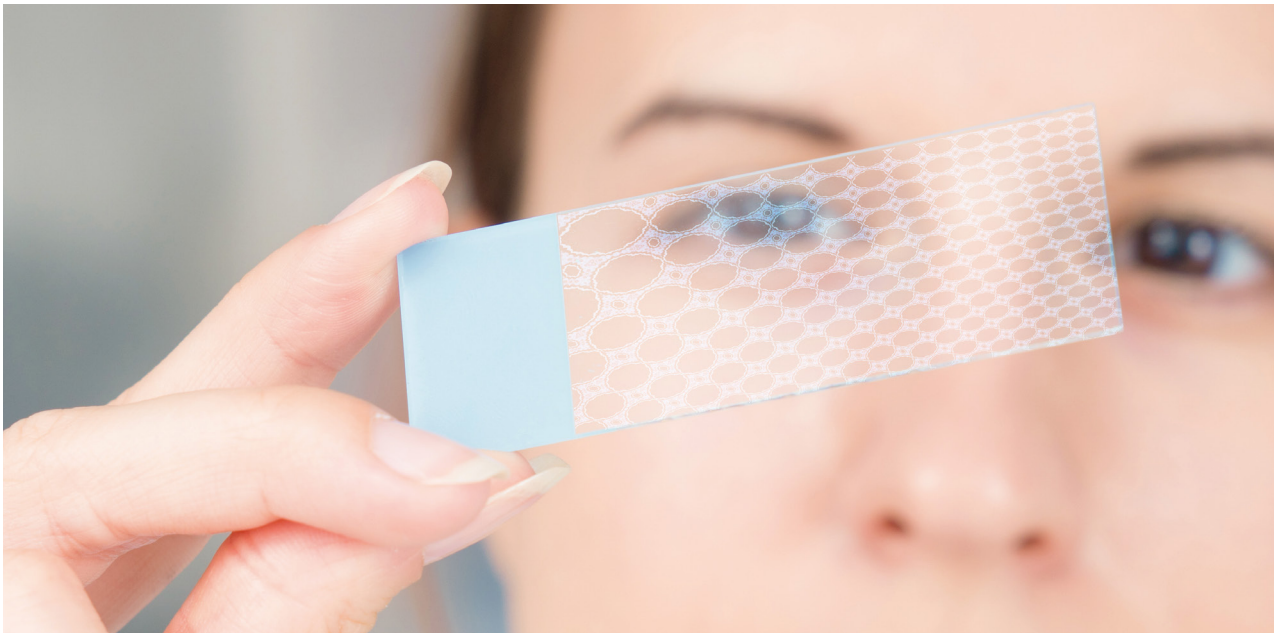
Quantum Materials Interfaces and Nano Devices Laboratory
Ph.D. Yoon, Hoon Hahn https://sites.google.com/view/q-mind-lab

Department of

Materials Science and Engineering

+82-62-715-2303 mse@gist.ac.kr http://mse.gist.ac.kr

Department of **Materials Science and Engineering**



Materials science and engineering is an interdisciplinary field of science that involves physics, chemistry, polymer engineering, metallurgy, electrical, and electronic engineering. It deals with new and improved materials for more efficient and effective technologies enhancing the quality of human life.

Our school pursues excellence in teaching and research, drawing upon its world-class faculty members, the state-of-the-art research facilities, and dedicated students. The department aims at motivating students for the development of new materials and preparing them with a better understanding of materials so that they can play an important role in the advanced fields of technology related to new materials.

Current research activities include the areas of nano-scale electronic and photonic materials, organic materials and devices, polymers and biomedical materials. The research focuses are the areas of semiconductor materials for optoelectonics, electronic materials for nanoelectronics, organic materials for information processing, materials for energy technoloy, and polymeric biomaterials for biomedical engineering.

With the effort of faculty members and students, the department is devoted to achieve excellent academic and research performance in the fields of new materials, and moreover striving to be among the leading research groups in the world.

Research on Healthcare

Healthcare materials are key future technology for heatlthy and safe society. Based on the fundamental understanding of life and nature, healthcare material research have focused on aging issues, sensing of life and environmental signals, diagnosis and treatment of diseases, enhancement of human functions. The research groups in the healthcare materials have elaborated to develop new materials, including organic, bio, inorganic, and complexed materials, and their applications for diagnostics, therapeutics, and biomedical devices.

Participating faculty : Ko, Heung Cho, Kwon, Inchan, Park, Ji-Woong, Kim, Hobeom, Yeon, Hanwool, Yoon, Myung-Han, Lee, Kwanghee, Lee, Eunji, Lee, Jae Young, Choi, Yeongjae, Tae, Giyoong, Ha, Minjeong

Research on Energy/Green Tech

The world is facing serious energy and environmental problems that will vastly threaten the quality of human life. Developments of new technologies that can minimize natural resource consumption and concurrently assure the continuous supply of green energy from renewable sources are highly needed. Research groups in the 'Energy/Green Tech' aim to respond to the global needs for human sustainability. The core of this research area is understanding the relationship between materials' structure and their properties and ultimately developing new functional materials & devices for their applications in diverse energy and environmental technologies.

Participating faculty : Kwon, Inchan, Kim, Dong-Yu, Kim, Bong Joong, Kim, Hobeom, Park, Ji-Woong, Eom, Kwang-sup, Yoo, Seung Joon, Yoon, Myung-Han, Yoon, Tae-Ho, Lee, Kwanghee, Lee, Sanghan, Lee, Eunji, Lee, Joo-Hyoung, Jung, Gun-Young, Cho, Beongki, Jo, Ji Young, Ha, Minjeong

Research on AI

New materials have always advanced our understanding about Nature around us and greatly improved the quality of our lives. However, developing a new material is an extremely time- and cost-consuming process due to vast search space and nontrivial optimization of materials properties. Artificial intelligence (AI) can expedite this task by rapidly exploring the materials space. This is made possible through establishing a close relationship between materials properties and structure. The AI research groups in SMSE at GIST aim to accelerate the design process by constructing and properly training AI models.

Participating faculty : Kwon, Inchan, Kim, Hobeom, Yoon, Myung-Han, Lee, Sanghan, Lee, Joo-Hyoung, Choi, Yeongjae, Ha, Minjeong

Research on Connected Mobility

Nowadays called the era of the 4th industrial revolution, the connection of all things (IoT) is spreading beyond smart home appliances and homes to automobiles and urban infrastructure. The concept of connected mobility which is based on technologies represented by V2X (Vehicle to X) enables communications between vehicles and vehicles (V2V), vehicles and infrastructures (V2I), vehicles and offices (V2O), vehicles and houses (V2H) and vehicles and mobile devices (V2M). This multi-dimensional connection will realize autonomous driving with artificial intelligence, smart home, smart city and infortainment (information + entertainment) in the vehicle. The "Connected Mobility Group" is concentrating on developing functional materials and devices that can make these technologies a reality, and processes for them.

Participating faculty : Ko, Heung Cho, Kim, Dong-Yu, Kim, Bong Joong, Kim, Hobeom, Park, Ji-Woong, Yeon, Hanwool, Lee, Sanghan, Lee, Eunji, Lee, Joo-Hyoung, Jung, Gun-Young, Ha, Minjeong

Faculty

NAME	EDUCATION	E-MAIL	PHONE
Ko, Heung Cho Professor	**Sogang University** Ph.D. in Chemistry	heungcho@gist.ac.kr	+82-62-715-2310
Kwon, InChan Professor	**California Institute of Technology** Ph.D. in Chemical Engineering	inchan@gist.ac.kr	+82-62-715-2312
Kim, Dong-Yu Professor	**University of Massachusetts Lowell** Ph.D. in Polymer Science/Plastics Engineering	kimdy@gist.ac.kr	+82-62-715-2319
Kim, Bong Joong Professor	**Purdue University** Ph.D. in Materials Engineering	kimbj@gist.ac.kr	+82-62-715-2341
Kim, Hobeom Assistant Professor	**POSTECH** Ph.D. in Materials Science and Engineering	hobkim@gist.ac.kr	+82-62-715-2741
Park, Ji-Woong Professor	**Polytechnic University Brooklyn** Ph.D. in Polymer Chemistry	jiwoong@gist.ac.kr	+82-62-715-2315
Eom, Kwang-Sup Professor	**KAIST** Ph.D. in Materials Science and Engineering	keom@gist.ac.kr	+82-62-715-2313
Yeon, Hanwool Assistant Professor	**Seoul National University** ph.D. in Materials Science and Engineering	hanwool@gist.ac.kr	+82-62-715-2738
Yoo, Seung Joon Associate Professor	**University of California, Santa Barbara** Ph.D. in Chemistry	sjoonyoo@gist.ac.kr	+82-62-715-2339
Yoon, Myung-Han Professor	**Northwestern University** Ph.D. in Materials Chemistry	mhyoon@gist.ac.kr	+82-62-715-2320
Lee, Kwanghee Professor	**University of California, Santa Barbara** Ph.D. in Physics	klee@gist.ac.kr	+82-62-715-2325

NAME	EDUCATION	E-MAIL	PHONE
Lee, Sanghan Professor	**University of Wisconsin-Madison** Ph.D. in Materials Science & Engineering	sanghan@gist.ac.kr	+82-62-715-2314
Lee, Eunji Professor	**Yonsei University** Ph.D. in Chemistry	eunjilee@gist.ac.kr	+82-62-715-2730
Lee, Jae Young Professor	**University of Texas at Austin** Ph.D. in Chemical Engineering	jaeyounglee@gist.ac.kr	+82-62-715-2358
Lee, Joo-Hyoung Professor	**Northwestern University** Ph.D. in Physics	jhyoung@gist.ac.kr	+82-62-715-2322
Jung, Gun-Young Professor	**University of Durham** Ph.D. in Chemical Engineering	gyjung@gist.ac.kr	+82-62-715-2324
Cho, BeongKi Professor	**Iowa State University** Ph.D. in Physics	chobk@gist.ac.kr	+82-62-715-2318
Jo, Ji Young Professor	**Seoul National University** Ph.D, in Physics	jyjo@gist.ac.kr	+82-62-715-2326
Choi, Yeongjae Assistant Professor	**Seoul National University** ph.D. in Electrical and Computer Engineering	yeongjae@gist.ac.kr	+82-62-715-2735
Tae, Giyoong Professor	**California Institute of Technology** Ph.D. in Chemical Engineering	gytae@gist.ac.kr	+82-62-715-2305
Ha, Minjeong Assistant Professor	**UNIST** ph.D. in Chemical Engineering	minjeongha@gist.ac.kr	+82-62-715-2732

Labs, Centers

Flexible Electronics Lab (FEL)
Ph.D. Ko, Heung Cho https://mse.gist.ac.kr/flexible/

Functional Protein Engineering Lab (FPEL)
Ph.D. Kwon, Inchan http://mse.gist.ac.kr/bimil/

Photonics Polymer Lab (PPL)
Ph.D. Kim, Dong-Yu http://mse.gist.ac.kr/ppl/

In Situ Nano-Energy Processing Lab (INPL)
Ph.D. Kim, Bong Joong https://inpl.gist.ac.kr/inpl/

Semiconductor Photonics and Electronics Lab (SPELL)
Ph.D. Kim, Hobeom https://sites.google.com/view/spellkim/home

Soft Nanomaterials and Energy Lab (SNE)
Ph.D. Park, Ji-Woong http://mse.gist.ac.kr/snl/

Electrochemical Energy Systems Lab (EESL)
Ph.D. Eom, Kwang-Sup http://sites.google.com/view/gisteesl

SMART Metallization Lab
Ph.D. Yeon, Hanwool http://yeonlab.org/

ORGANIC ELECTROCHEMISTRY AND ENERGY MATERIALS Lab (OEEML)
Ph.D. Yoo, Seung Joon https://energy.gist.ac.kr/energy/

Bio-Electronics Materials Lab (BEMs)
Ph.D. Yoon, Myung-Han https://sites.google.com/site/gistbioelectronics/

Organic Semiconductors and Photonics Lab (OSPL)
Ph.D. Lee, Kwanghee http://mse.gist.ac.kr/ospl/

Sustainable Energy and Electronic Devices Lab (SEED)
Ph.D. Lee, Sanghan https://mse.gist.ac.kr/sanghan/

Soft Matter Nanoscopy Lab (SOMAT)
Ph.D. Lee, Eunji http://so-mat.wixsite.com/gist

Biomimetic Materials Lab (BML)
Ph.D. Lee, Jae Young http://sites.google.com/site/biomaterialjyl/home

Computational Materials Science Lab (CMAT)
Ph.D. Lee, Joo-Hyoung https://sites.google.com/view/cmatgist

Advanced Lithography for Integrated Systems Lab (ALIS)
Ph.D. Jung, Gun-Young http://mse.gist.ac.kr/alis/

Nano Spintronics & Magnetic Materials Lab (NSMML)
Ph.D. Cho, Beongki http://mse.gist.ac.kr/nsmml/

Functional Oxide Nanostructure Lab (FONL)
Ph.D. Jo, Ji Young https://sites.google.com/view/fun-oxide/home

Nucleic acids design studio Lab (NDS)
Ph.D. Choi, Yeongjae http://choi.science

Biomacromolecular Engineering Lab (BMEL)
Ph.D. Tae, Giyoong https://mse.gist.ac.kr/bmel/index.do

Intelligent Materials and Devices Lab (IMD)
Ph.D. Ha, Minjeong https://minjeongha.wixsite.com/imd-minjeong-ha

Student Interviews

Name **Tipan Quishpe Alexander Mauricio**
Nationality **Ecuadorian**
Program **Ph.D.**

How long have you been studying at GIST?

I have been studying at GIST for more than three years. I started in 2021 with a master's program and later decided to pursue a PhD.

What made you decide to study at GIST?

I decided to study at GIST after participating in the Summer Global Internship Program (GIP) in 2019. During the program, I was exposed to cutting-edge research in Materials Science and Engineering. Additionally, I was impressed by the supportive environment for the international community, which encouraged me to apply for the graduate program.

What are three best things about GIST?

Firstly, I like the excellent research facilities that allow investigating new research trends. Certainly, GIST is highly regarded in global citation indexes. Secondly, the supportive research environment and resources for international students are outstanding. Most classes are taught in English, which is crucial for international students not fluent in Korean. Lastly, the stipend, scholarships, and campus facilities at GIST are competitive and superior to those at other institutes and universities in South Korea.

Are you satisfied with the support you receive from GIST?

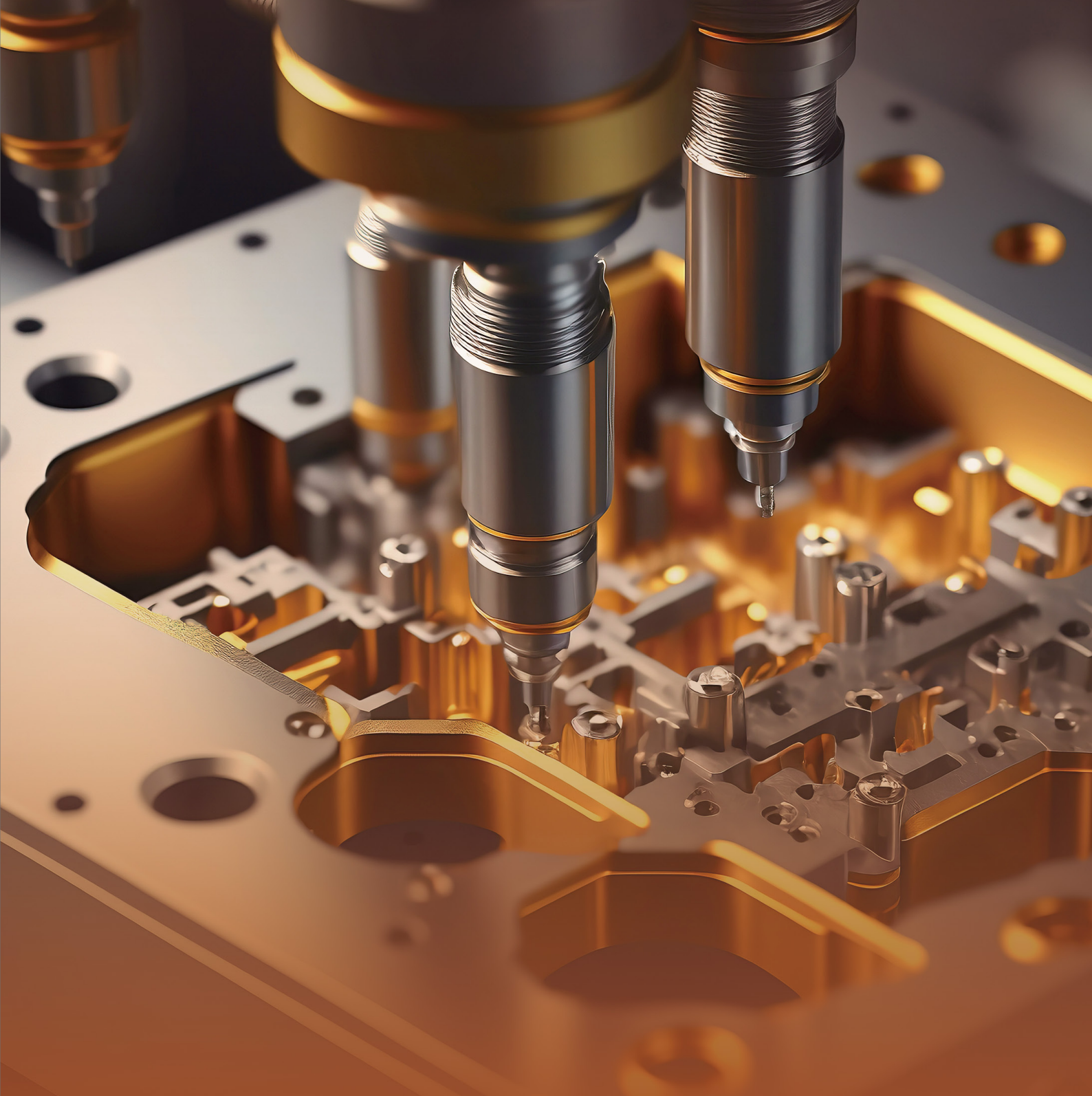
Yes, I am satisfied with the support from GIST. Various departments, including the Section of International Relations, have been very helpful throughout my time here, assisting with living and adapting to the culture in South Korea. GIST continually seeks new ways to support its international students.

What is your plan after you finish the academic program at GIST?

Currently, I am in my first year of the PhD program. I plan to complete my degree and achieve proficiency in Korean, aiming to secure a research position at a major Korean company such as Samsung or LG, where I can apply the knowledge I gained at GIST.

What advice would you give to the international students who want to study at GIST graduate school?

I advise prospective students to thoroughly research the programs and laboratories they are interested in and attend the informative sessions that GIST offers during the application period. This helps in preparing a strong application and increases the chances of admission to one of Korea's top research institutes. Additionally, gaining experience through research internships like the GIP program that GIST offers every summer can be very beneficial.



Department of

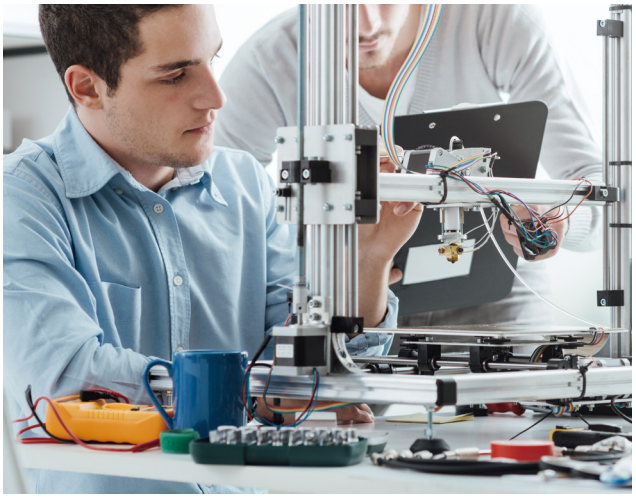
Mechanical and Robotics Engineering

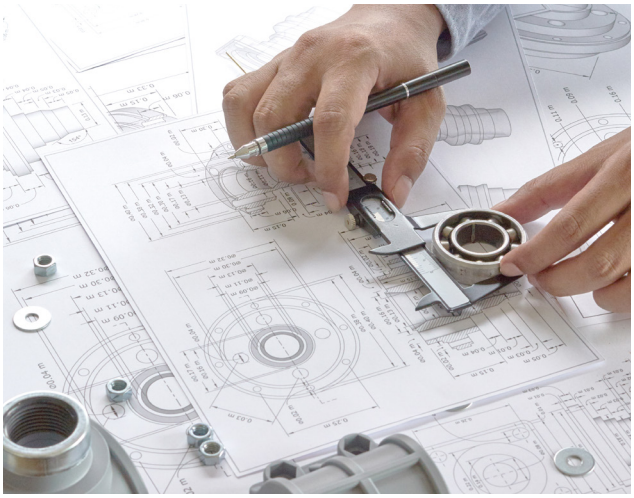
+82-62-715- 2383

sme@gist.ac.kr

https://me.gist.ac.kr/meeng/

Department of
Mechanical and Robotics Engineering





The advance of science and technology will lead our society to a better place with improved-quality of life. Mechanical and Robotics Engineering is the academic discipline that plays a central role to make this change of society come true by systematically integrating mechanical, electrical and software technology. The Department of Mechanical and Robotics Engineering at GIST focuses on the development of new and innovative technologies in mechanical and robotics engineering with special research interest in the following areas:

- Robot Mobility
- Aerospace and Defense
- Intelligent Design and Manufacturing
- Thermal Fluid Energy System

To achieve our goal, Department of Mechanical and Robotics Engineering accepts students from diverse backgrounds including, but not limited to, electrical engineering, computer science, mechanical engineering, control, instrumentation, mechatronics, industrial engineering and provides high quality education and research environments. By participating in pioneering researches and system development, the students at Department of Mechanical and Robotics Engineering learn in-depth knowledge of software design/hardware manufacturing/basic science and engineering and the application of these knowledge for industry. The graduates of Department of Mechanical and Robotics Engineering are currently working at many renowned national research laboratories and global leading companies. We trust that the students form Department of Mechanical and Robotics Engineering at GIST will play a key role in realizing human wellbeing through Mechanical and Robotics Engineering.

Robot Mobility

- Ahn, Hyo-Sung (Distributed Control & Autonomous Systems)
- Hur, Pilwon (Dynamics and Biomechatronics)
- Kim, Pyojin (Machine Perception and Intelligence)
- Ko, Gwang Hee (Modeling and Simulation)
- Lee, Jaewook (E-Mobility Design Optimization)
- Lee, Jongho (Bio-Robotics)
- Oh, Hyunseok (Smart Diagnosis and Design Optimization)

Aerospace and Defense

- Ahn, Hyo-Sung (Distributed Control & Autonomous Systems)
- Kim, Taeseong (Aeroelastic Design and Strucural Dynamics)
- Choi, Seongim (Data-Driven Simulation and Design Optimization)
- Hur, Pilwon (Dynamics and Biomechatronics)
- Jee, Solkeun (THEORY)
- Kim, Pyojin (Machine Perception and Intelligence)
- Lee, Seunghyun (Two-Phase Flow and Thermal Management)
- Park, Kyi Hwan (Dynamics and Control)
- Seol, Jae Hun (Thermal Innovation)

Intelligent Design and Manufacturing

- Jeong, Sungho (Laser Micro/Nano Fabrication)
- Ko, Gwang Hee (Modeling and Simulation)
- Kim, Minkyung (Nanophotonics)
- Lee, Jaewook (E-Mobility Design Optimization)
- Lee, Jongho (Bio-Robotics)
- Oh, Hyunseok (Smart Diagnosis and Design Optimization)
- Yang, Sung (BioMEMS)

Thermal Fluid Energy System

- Choi, Seongim (Data-Driven Simulation and Design Optimization)
- Jeong, Sungho (Laser Micro/Nano Fabrication)
- Jee, Solkeun (THEORY)
- Kim, Minkyung (Nanophotonics)
- Kim, Taeseong (Aeroelastic Design and Strucural Dynamics)
- Lee, Seunghyun (Two-Phase Flow and Thermal Management)
- Seol, Jae Hun (Thermal Innovation)
- Yang, Sung (BioMEMS)

-Communications
-Information & Communication
-Radio Engineering
-Computer Science
-Computer Engineering
-Control & Instrumentation Physics
-Optical Engineering
-Optics
-Materials Science
-Chemistry
-Chemical Engineering
-Mechanical Engineering
-Mechanical Design Engineering
-Mechatronics
-Industrial Engineering
-Avionic Engineering
-Mathematics
-Applied Mathematics
-Electrical Engineering
-Electronics Engineering
-Robotics Engineering

Faculty

NAME	EDUCATION	E-MAIL	PHONE
Ahn, Hyo-Sung Professor	**Utah State Univ.** Ph.D. in Electrical & Computer Eng.	hyosung@gist.ac.kr	+82-62-715-2398
Choi, Seongim Associate Professor	**Stanford Univ.** Ph.D. in Aeronautics and Astronautics	schoi1@gist.ac.kr	+82-62-715-2771
Hur, Pilwon Associate Professor	**Univ. of Illinois at Urbana-Champaign** Ph.D. in Mechanical Eng.	pilwonhur@gist.ac.kr	+82-62-715-2408
Jee, Solkeun Associate Professor	**Univ. of Texas at Austin** Ph.D. in Mechanical Eng.	sjee@gist.ac.kr	+82-62-715-2773
Jeong, Sungho Professor	**Univ. of California at Berkeley** Ph.D. in Mechanical Eng.	shjeong@gist.ac.kr	+82-62-715-2393
Kim, Pyojin Assistant Professor	**Seoul National Univ.** Ph.D. in Mechanical and Aerospace Eng.	pjinkim@gist.ac.kr	+82-62-715-2805
Kim, Taeseong Professor	**Seoul National Univ.** Ph.D. in Aerospace Eng.	tkim@gist.ac.kr	+82-62-75-2404
Kim, Minkyung Assistant Professor	**Pohang Univ. of Sci. and Tech.** Ph.D. in Mechanical Eng.	m.kim@gist.ac.kr	+82-10-715-2772

NAME	EDUCATION	E-MAIL	PHONE
Ko, Gwang Hee Professor	**Massachusetts Inst. of Tech.** Ph.D. in Computer Aided Design & Fabrication	khko@gist.ac.kr	+82-62-715-3225
Lee, Jaewook Professor	**Univ. of Michigan-Ann Arbor** Ph.D. in Mechanical Eng.	jaewook@gist.ac.kr	+82-62-715-2779
Lee, Jongho Professor	**Univ. of California at Berkeley** Ph.D. in Mechanical Eng.	jong@gist.ac.kr	+82-62-715-2397
Lee, Seunghyun Associate Professor	**Purdue University** Ph.D. in Mechanical Eng.	lees@gist.ac.kr	+82-62-715-2787
Oh, Hyunseok Associate Professor	**Univ. of Maryland** Ph.D. in Mechanical Eng.	hsoh@gist.ac.kr	+82-62-715-2774
Seol, Jae Hun Associate Professor	**Univ. of Texas at Austin** Ph.D. in Micro/Nano Scale Heat	jhseol@gist.ac.kr	+82-62-715-2764
Yang, Sung Professor	**The Pennsylvania State Univ.** Ph.D. in Bioengineering	syang@gist.ac.kr	+82-62-715-2407

Labs, Centers

Distributed Control & Autonomous Systems Laboratory
Ph.D. Ahn, Hyo-Sung https://dcas.gist.ac.kr

Data-Driven Simulation and Design Optimization Laboratory
Ph.D. Choi, Seongim https://ddsdol.gist.ac.kr/ddsdol

Dynamics and Biomechatronics Laboratory
Ph.D. Hur, Pilwon https://hurgroup.net

THEORY Laboratory
Ph.D. Jee, SolKeun https://theory.gist.ac.kr

Laser Micro/Nano Fabrication Laboratory
Ph.D. Jeong, Sungho https://laser.gist.ac.kr

Machine Perception and intelligence Laboratory
Ph.D. Kim, Pyojin https://mpil-gist.github.io/

Aeroelastic Design and Structural Dynamics Laboratory
Ph.D. Kim, Taeseong https://sites.google.com/view/adsdl/home

Nanophotonics Laboratory
Ph.D. Kim, Minkyung https://photonics.gist.ac.kr

Modeling and Simulation Laboratory

Ph.D. Ko, Kwang Hee https://modsim.gist.ac.kr

E-Mobility Design Optimization Laboratory

Ph.D. Lee, Jaewook https://sites.google.com/view/e-mobility-design-opt-lab

Bio-Robotics Laboratory

Ph.D. Lee, Jongho https://sites.google.com/view/bioroboticslab

Two-Phase Flow and Thermal Management Laboratory

Ph.D. Lee, Seunghyun https://tpftml.gist.ac.kr

Smart Diagnosis and Design Optimization Laboratory

Ph.D. Oh, Hyunseok https://sddo.gist.ac.kr

Thermal Innovation Laboratory

Ph.D. Seol, Jae Hun https://nheat.gist.ac.kr

BioMEMS Laboratory

Ph.D. Yang, Sung https://biomems.gist.ac.kr

Student Interviews

Name **Ahmad Ramadoni**
Nationality **Indonesia**
Program **M.S./Ph.D.**

How long have you been studying at GIST?

Since my arrival at GIST, I have spent about 1.5 years. Engaging in the M.S./Ph.D. program, I am currently pursuing my third semester of study here in Korea. Time has swiftly passed.

What made you choose to study at GIST?

I chose to study at GIST based on a careful evaluation of several factors. Initially, GIST caught my attention through its impressive university rankings. After conducting thorough research and exploring various sources on the internet, it became evident that GIST is widely regarded as one of the prestigious graduate schools in Korea. I also discovered that GIST provides scholarships for all students, which aligned perfectly with my financial considerations.

What are the best things about GIST?

GIST is located in a serene location that facilitates a focused research environment. The institute offers excellent dormitories and affordable married apartments, compared to other institutions I am familiar with. Additionally, apart from lectures being conducted in English, the staff and all communication related to admissions and lectures are also available in English. This convenience proves advantageous for foreign students who may face language barriers, enabling them to adapt and communicate more easily.

Are you satisfied with the support you receive from GIST?

From my perspective, I am content with the support I receive from GIST. The scholarship and financial support provided by the institute have proven to be ample for a comfortable living in Gwangju. The fact is that Gwangju offers a lower cost of living compared to other cities. GIST also offers subsidies for meals, dormitories/apartments, and various other expenses.

What are your plans in terms of future studies and/or career after you complete your time at GIST?

After completing my time at GIST, my plan is to work in a research institute, where I can continue the research I am currently engaged in. I am passionate about further developing my project and making meaningful contributions to my field through continued research.

What advice would you give to new applicants hoping to enter a program at GIST?

To students aspiring to join GIST in Gwangju, Korea, I recommend conducting thorough research on the university and its programs. Establish contact with professors and labs in your field of interest to build connections. Gain an understanding of the Korean academic and research culture to adapt effectively. Good luck on your journey to GIST!

Department of

Environment and Energy Engineering

+82-62-715-2432

env@gist.ac.kr

http://env1.gist.ac.kr

Department of **Environment and Energy Engineering**

On behalf of all the members of Department of Environment and Energy Engineering. I sincerely welcome all of you. Our Department bears warmth in its heart, sharpness in the research, innovation in the teaching and learning, safety in conducting experiments, and proactiveness in helping others. Should you visit us, please drop by the faculty office first but prepare yourself not to be overwhelmed by passionate greetings. Every family in the Department looks casual but they have big dreams and visions, and they never give up in reaching their goals.

The Department has three main different research disciplines: Climate change and atmosphere; Water and ecology; Sustainable Energy. However, there are no strict distinctions or boundaries. Research areas of some faculty members are highly science-oriented, while others are engineering based. It is in our department where faculties with different backgrounds and majors can freely discuss their researches and methodologies. Students also have flexibility in research and collaboration. It is not strange at all to find one student co-working with another student from a different lab within the department.

It is thus no wonder that we excelled in producing publications and garnering funding. Now our goal is to be number one in fundamental studies with respect to both academic and research, and in practical applications spanning from compact energy conversion to huge desalination plants capable of feeding zero-carbon city.

Whatever backgrounds you may have, please do not hesitate to contact us if you are interested in joining our department. We are delighted to talk with you and collaborate.

Climate change and atmosphere

- **Remote Sensing of Environment**: Research on global-scale water cycle and hydrology using satellite data and machine learning methods
- **Atmospheric Chemistry**: Development of measurement techniques for air pollutants and understanding their behavior using multi-platform
- **Atmospheric Pollutant Analysis**: Identification of physicochemical characteristics of aerosols through real-time measurement/analysis
- **Atmospheric Pollution Modeling**: Utilization of modeling and remote observation-based air quality integrated modeling system
- **Climatology**: Climate change and atmospheric science

Water and ecology

- **Marine Biology**: Research on the impact of climate change on marine biology, resources, and ecosystems
- **Soil Environment**: Remediation of contaminated soil and groundwater derived from climate change
- **Environmental Toxicology**: Research on the transformation/behavior and impact of environmental hazardous substances
- **Plant Ecology**: Ecological responses of exotic/native plants to changing environments
- **Water Quality Treatment**: Development of advanced water treatment technology and sensor, and understanding of behavior of water environmental pollutants
- **Environmental Mass Spectrometry**: Mass spectrometry for elucidating the biological effects of environmental risk factors
- **Water Resource Treatment**: Analysis of drinking water quality, behavior/transformation of pollutants, and development of advanced water treatment technology
- **Water Resource Treatment**: Development and application of environmental pollution treatment and water resource technology based on environmental nanotechnology
- **Environmental Chemistry**: Understanding biogeochemical behaviors and removal of trace inorganic pollutants in environmental media
- **Environmental Microbiology**: Development of bacterial system for degradation of recalcitrant organic substances and synthesis of nanomaterials
- **Earth Materials Science**: Understanding changes in physical and chemical characteristics of materials under extreme environmental conditions and environmental applications

Sustainable Energy

- **Catalytic Chemical Engineering**: Gas conversion and eco-friendly energy production based on catalytic chemical processes
- **Chemical Engineering Thermodynamics**: Carbon Dioxide Capture, Utilization and Storage & Circular Economy Technologies for Carbon, Resources, and Energy
- **Physical Electrochemistry**: Chemical Energy Conversion and Storage Processes based on Electrocatalytic Reactions
- **Biochemical Engineering**: Bioenergy production/conversion/utilization based on bioelectrochemical reactions and biological processes
- **Environmental/Energy Materials Science & Engineering**: Development of energy environmental materials based on crystal defect chemistry and electrochemistry

Faculty

NAME	EDUCATION	E-MAIL	PHONE
Chang-Keun Kang Professor	**Univ. of Nantes** Ph.D. in Marine Biology	ckkang@gist.ac.kr	+82-62-715-2834
Changwoo Kim Assistant Professor	**Washington Univ-St. Louis** Ph.D in Energy, Environmental and Chemical Eng	changwookim@gist.ac.kr	+82-62-715-2817
Chul Han Song Professor	**Univ. of Iowa** Ph.D. in Chemical Eng.	chsong@gist.ac.kr	+82-62-715-3276
Eunsuk Kim Associate Professor	**Harvard Univ** Ph.D. in Biology	eunsukkim@gist.ac.kr	+82-62-715-3650
Heechul Choi Professor	**Texas A&M Univ.** Ph.D. in Civil Eng.	hcchoi@gist.ac.kr	+82-62-715-2441
Hor-Gil Hur Professor	**Univ. of Minnesota** Ph.D. in Soil Microbiology	hghur@gist.ac.kr	+82-62-715-2437
Huijeong Hwang Assistant Professor	**Yonsei Univ.** Ph. D. in Earth System Sciences Eng	huijeonghwang@gist.ac.kr	+82-62-715-2814
Hyunglok Kim Assistant Professor	**Univ. of Virginia** Ph.D in Civil Engineering	hyunglokkim@gist.ac.kr	+82-62-715-2439
In Seop Chang Professor	**Univ. of Wales Swansea** Ph.D. in Biochemical Eng.	ischang@gist.ac.kr	+82-62-715-3278
Jaeyoung Lee Professor	**Fritz-Haber-Institut der MPG and FU berlin** Dr. rer. nat. in Physical chemistry	jaeyoung@gist.ac.kr	+82-62-715-2440
Jin-Ho Yoon Professor	**Iowa State Univ.** Ph.D. in Meteorology	yjinho@gist.ac.kr	+82-62-715-2464

NAME	EDUCATION	E-MAIL	PHONE
Jong Hoon Joo Professor	**POSTECH** Ph.D. in Materials Science and Engineering	jhjoo@gist.ac.kr	+82-62-715-2843
Joon Ha Kim Professor	**Univ. of California, Irvine** Ph.D. in Chemical & Biochemical Eng.	joonkim@gist.ac.kr	+82-62-715-3277
Kihong Park Professor	**Univ. of Minnesota** Ph.D. in Mechanical Eng.	kpark@gist.ac.kr	+82-62-715-3279
Kyoung-woong Kim Professor	**Imperial College, Univ. of London** Ph.D. in Environmental Technology	kwkim@gist.ac.kr	+82-62-715-2442
Kyung-Eun Min Associate Professor	**Univ. of California, Berkeley** Ph.D. in Earth & Planetary Science	kemin@gist.ac.kr	+82-62-715-3280
Sang Don Kim Professor	**Univ. of Delaware** Ph.D. in Civil & Environmental Eng.	sdkim@gist.ac.kr	+82-62-715-2445
Seunghee Han Professor	**Texas A&M Univ.** Ph.D. in Oceanography	shan@gist.ac.kr	+82-62-715-2438
Sung Bong Kang Associate Professor	**POSTECH** Ph.D. in Chemical Engineering	sbkang@gist.ac.kr	+82-62-715-2465
Tae-Young Kim Associate Professor	**Indiana Univ.** Ph.D. in Analytical Chemistry	kimtaeyoung@gist.ac.kr	+82-62-715-3647
Youngjune Park Professor	**KAIST** Ph.D. in Chemical & Biomolecular Eng.	young@gist.ac.kr	+82-62-715-2836
Yunho Lee Professor	**Seoul National Univ.** Ph.D. in Chemical Eng.	yhlee42@gist.ac.kr	+82-62-715-2468

Labs, Centers

Climate change and atmosphere

Aerosol Technology and Monitoring Laboratory [ATML]
Prof. Kihong Park https://env1.gist.ac.kr/atml/

Atmospheric Chemical Information Research Laboratory [AIRL]
Prof. Chul Han Song https://airlab.gist.ac.kr/

Atmospheric Trace MOIecules Sensing Laboratory [ATMOS]
Prof. Kyung Eun Min https://env1.gist.ac.kr/atmoslab/

Climate Analysis and Modeling Laboratory [CAML]
Prof. Jin-Ho Yoon https://env1.gist.ac.kr/camlab/

Hydro AI Laboratory [Hydro AI]
Prof. Hyunglok Kim https://www.hydroai.net

Water and ecology

Applied and Environmental Microbiology Laboratory [AEML]
Prof. Hor-Gil Hur https://env1.gist.ac.kr/aeml/

Earth Material Sciences Laboratory [EMSL]
Prof. Huijeong Hwang https://sites.google.com/view/gistemsl/

Environmental Nanotechnology Laboratory [ENL]
Prof. Heechul Choi https://env1.gist.ac.kr/enl/

Environmental Mass Spectrometry & Analytical Chemistry Laboratory [EMAL]
Prof. Tae-Young Kim https://env1.gist.ac.kr/enol/

Environmental Systems Engineering Laboratory [ESEL]
Prof. Joon Ha Kim http://esel.gist.ac.kr

Environmental Toxicology and Chemistry Laboratory [ETCL]
Prof. Sang Don Kim https://env1.gist.ac.kr/etcl/

Envolutionary Ecology Laboratory [EEL]
Prof. Eunsuk Kim http://eel.gist.ac.kr/eel/

Soil Environment Laboratory [SEL]
Prof. Kyoung-woong Kim https://env1.gist.ac.kr/sel/

Stable Isotope Ecology Laboratory [SIEL]
Prof. Chang-Keun Kang https://env1.gist.ac.kr/siel/

Trace Metal Biogeochemistry Laboratory [TMBL]
Prof. Seunghee Han https://tmbl.gist.ac.kr/

Water Quality and Treatment Laboratory [WQTL]
Prof. Yunho Lee https://env1.gist.ac.kr/wqtl/

Water Security Lab [WSL]
Prof. Changwoo Kim https://env1.gist.ac.kr/water/

Sustainable Energy

Carbon & Energy Systems Laboratory [CnESL]
Prof. Youngjune Park https://cnesl.gist.ac.kr/cnesl/

Electrochemical Reaction and Technolgoy Laboratory [ERTL]
Prof. Jaeyoung Lee https://env1.gist.ac.kr/ertl/

Energy and Biotechnology Laboratory [EBL]
Prof. In Seop Chang https://ebl.gist.ac.kr/

Energy and Environmental Material Labratory [EEML]
Prof. Jong Hoon Joo https://env1.gist.ac.kr/eeml/

Environmental Catalysis Laboratory [ECL]
Prof. SungBong Kang https://ecl.gist.ac.kr/ecl/

Student Interviews

Name **KONG, SHIK ROU**
Nationality **Malaysia**
Program **Ph. D.**

Why did you choose GIST and decide to pursue this major?

During my internship at GIST in 2020, I gained valuable experience that inspired me to pursue further studies at the university. GIST, renowned as one of South Korea's top research universities, impressed me with its advanced technological approach to research, well-equipped facilities, commitment to high-quality research, and comfortable campus environment. These factors not only influenced my decision to pursue a Master's degree but also motivated me to continue into a PhD program.

How do you think the professors in Department of Environment and Energy Engineering contribute to your academic growth and success?

Professors in the Department of Environment and Energy Engineering play a multifaceted role in enhancing students' academic growth and success. They offer knowledge, guidance, practical experience, and support, all of which are crucial for students to thrive in their academic and professional endeavors. Their professionalism and ability to communicate effectively in English further ensure a conducive learning environment for all students, including those from international backgrounds.

Can you share any hands-on experiences or projects from the Department of Environment and Energy Engineering that have been particularly memorable or valuable?

One particularly memorable and valuable hands-on experience is the international internship held by the International Environmental Research Institute (IERI). This internship provided unforgettable memories as it brought together interns from all over the world, fostering a diverse and enriching environment. My experience in the CnESL lab under the guidance of Professor Youngjune Park was especially impactful. I gained substantial research experience, learned advanced techniques, and collaborated on significant environmental projects, all of which greatly enhanced my academic and professional growth.

In what ways do you think the Department of Environment and Energy Engineering prepares students for future career opportunities or further studies?

The Department of Environment and Energy Engineering prepares students for future career opportunities and further studies in several key ways. The comprehensive curriculum, designed and delivered by experienced professors in DEEE, offers a robust foundation of knowledge and skills that are highly competitive on an international scale. This prepares students to excel in their chosen fields upon graduation. Moreover, the laboratory facilities at DEEE foster numerous collaborations with industry leaders and top-ranking universities worldwide. These partnerships provide students with invaluable hands-on experience and exposure to cutting-edge research and technology. Such collaborations not only enhance their academic learning but also offer practical insights and networking opportunities that are crucial for their future careers or pursuit of advanced studies.

Are you satisfied with the support you receive from GIST?

Yes, I am very satisfied with the support I receive from GIST. The financial support provided by GIST covers all expenses and tuition fees, allowing us to focus entirely on our studies without worrying about financial burdens. Additionally, the institute offers excellent facilities such as a gym, swimming pool, 24-hour convenience store, and barber shop, which cater to the needs of both international and local students. I truly appreciate the efforts GIST makes to support and accommodate international students.

What advice would you give to new applicants hoping to enter a program at GIST?

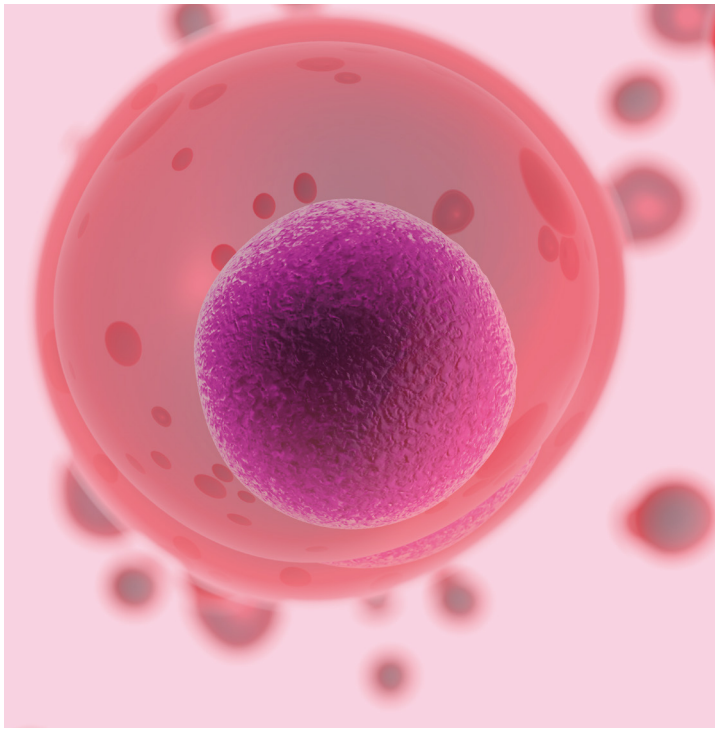
I would say that be prepared to work hard, as GIST offers numerous opportunities to prove yourself and achieve the best in your life. Embrace these opportunities, and you will find that your efforts will be well rewarded. If you know what you want to achieve through here, GIST always is the best choice. Good luck!!!

Department of

Life Sciences

+82-62-715-2481 life@gist.ac.kr http://life.gist.ac.kr

Department of **Life Sciences**



Life science is a field of science that studies the complex and mysterious phenomena of life. It is composed of thousands of physical and chemical principles. Therefore, a thorough understanding of basic sciences is essential for the efficient and successful study of life science.

A recent rapid progress in biochemistry and molecular biology has allowed us to examine the phenomena of life at the molecular level. Life science is considered to be a contemporary frontier science mainly because its methodological approaches are based on the most updated modern technologies and the outcomes of these studies have a potential to contribute immensely and widely to the well-being of human life.

The basic philosophy of this department is to study the complex phenomena of life through the use of modern molecular biological methods. The knowledge obtained from this basic research will be effectively used by the researchers in the applied fields.

Cell & Molecular Biology

- Cell dynamics imaging and logistics
- Cell aging and clearance
- Genomics and epigenomics
- Tumor metabolism and suppressor
- Gene therapy and new drug targets
- Osteoarthritis research

Biochemistry & Biophysics

- Protein structure and function
- Functional and medicinal proteomics
- Single molecule biology and cellular dynamics
- Membrane protein modulator and drug discovery

Neuroscience & Developmental Biology

- Regulation of neural circuitry and IT control
- Observation of germ cells and gene discovery
- Observation of vascular endothelial cells and vascular markers
- Brain engineering and neurodevices
- Molecular neurobiology

Immunology

- Immune synapse and cell therapy
- Regulation of cancer, autoimmune diseases
- Regulation of inflammatory diseases
- Dynamic interaction of immune system and stem cells
- Tissue regeneration and disease development

Faculty

NAME	EDUCATION	E-MAIL	PHONE
Park, Chul-Seung Professor	Brandeis Univ. & Howard Hughes Medical Inst. Ph.D. in Biochemistry	cspark@gist.ac.kr	+82-62-715-2489
Eom, Soo-Hyun Professor	Seoul National Univ. Ph.D. Biochemistry	eom@gist.ac.kr	+82-62-715-2493
Cho, Chung-Hee Professor	Univ. of Connecticut Health Center Ph.D. in Developmental Biology/Biomedical Science	choch@gist.ac.kr	+82-62-715-2490
Kim, Yong-Chul Professor	Seoul National Univ. Ph.D. in Medicinal Chemistry	yongchul@gist.ac.kr	+82-62-715-2502
Jun, Chanu-Duk Professor	Kyungpook National Univ. Ph.D. in Biology	cdjun@gist.ac.kr	+82-62-715-2506
Park, Zee-Yong Professor	Texas A&M Univ. Ph.D. in Chemistry	zeeyong@gist.ac.kr	+82-62-715-2496
Darren Reece Williams Professor	Imperial College London Ph.D. in Cell Biology	darren@gist.ac.kr	+82-62-715-2509
Shen, Hai-Hong Professor	Korea Advanced Inst. of Sci. and Tech. Ph.D. in Molecular Biology	haihongshen@gist.ac.kr	+82-62-715-2507
Song, Mi-Ryoung Professor	Johns Hopkins Univ. Ph.D. in Neuroscience	msong@gist.ac.kr	+82-62-715-2508
Jin, Suk-Won Professor	Univ. of Michingan Ph.D. in Molecular Cellular and Development Biology	sukwonjin@gist.ac.kr	+82-62-715-3561
Kim, Young-Joon Professor	Univ. of California, Riverside Ph.D. in Entomology	kimyj@gist.ac.kr	+82-62-715-2492

NAME	EDUCATION	E-MAIL	PHONE
Jun, Youngsoo Professor	**Dartmouth College** Ph.D. in Biochemistry	junys@gist.ac.kr	+82-62-715-2510
Nam, Jeong-Seok Professor	**Seoul National Univ.** Ph.D. in Veterinary Medicine	namje@gist.ac.kr	+82-62-715-2893
Park, Dae-Ho Professor	**Univ. of Virginia** Ph.D. in Cell Biology	daehopark@gist.ac.kr	+82-62-715-2890
Jin, Mi-Sun Associate Professor	**Purdue Univ.** Ph.D. in Chemistry	misunjin@gist.ac.kr	+82-62-715-3562
Steve K. Cho Associate Professor	**UT Southwestern Medical Center** Ph.D. in Cell Regulation	scho@gist.ac.kr	+82-62-715-3631
Park, Ji-Hwan Associate Professor	**POSTECH** Ph.D. in Bioinformatics	jihwan.park@gist.ac.kr	+82-62-715-2503
Lee, Sunjae Associate Professor	**KAIST** Ph.D. in Bioinformatics	leesunjae@gist.ac.kr	+82-62-715-2505
Choi, Jinwook Assistant Professor	**Seoul National Univ.** Ph.D. in Immunology	jinchoi@gist.ac.kr	+82-62-715-2504
Kwon, Yong-Hoon Assistant Professor	**POSTECH** Ph.D. in Life Sciences	yonghoon@gist.ac.kr	+82-62-715-2488
Jung, Kang-Hoon Assistant Professor	**Dartmouth College** Ph.D. in Psychological and Brain Sciences	jeongkh@gmail.com	

Labs

Biochemistry & Biophysics

Protein Structure & Function Laboratory
Eom, Soo-Hyun, Ph.D. https://xray.gist.ac.kr

Drug Discovery Laboratory
Kim, Yong-Chul, Ph.D. https://ldd.gist.ac.kr

Functional and Medicinal Proteomics Laboratory
Park, Zee-Yong, Ph.D. https://mass.gist.ac.kr

Membrane Protein Structural and Functional Biology Laboratory
Jin, Mi-Sun, Ph.D. https://mpsf.gist.ac.kr

Neuroscience & Developmental Biology

Molecular Neurobiology Laboratory
Park, Chul-Seung, Ph.D. https://mnl.gist.ac.kr

Reproductive Biomedicine and Gene Discovery Laboratory
Cho, Chung-Hee, Ph.D. https://rbgd.gist.ac.kr

Neural Network and Transcriptomics Laboratory
Song, Mi-Ryoung, Ph.D. https://ndl.gist.ac.kr

Molecular Neuroethology Laboratory
Kim, Young-Joon, Ph.D. http://gistflylab.wix.com/gistlmn

Signal Transduction Laboratory
Jin, Suk-Won, Ph.D. https://dgl.gist.ac.kr

Laboratory of Neurobiological Intelligence
Jung, Kang-Hoon, Ph.D. https://neurobiointelligence.github.io/

Immunology

Immune Synapse & Cell Therapy Research Laboratory
Jun, Chang-Duk, Ph.D. https://isct.gist.ac.kr

Inflammation and Tissue Regeneration Laboratory
Choi, Jinwook, Ph.D. https://life.gist.ac.kr

Cell & Molecular Biology

RNA Genomics and Gene Epigenetics Laboratory
Shen, Hai-Hong, Ph.D. https://gistrna.gist.ac.kr

New Drug Targets Laboratory
Darren Reece Williams, Ph.D. https://ndtl.gist.ac.kr

Cell & Virus Logistics Research Laboratory
Jun, Youngsoo, Ph.D. https://clar.gist.ac.kr

Cell Clearance Laboratory
Park, Dae-Ho, Ph.D. https://cellclearance.gist.ac.kr

Cancer Biology Laboratory
Nam, Jeong-Seok, Ph.D. https://lcb.gist.ac.kr

Tumor Metabolism and Therapeutic Oncology Research Laboratory
Steve K, Cho, Ph.D. https://tmtor.gist.ac.kr

Functional Genomics Laboratory
Park, Ji-Hwan, Ph.D. https://genomics.gist.ac.kr

Life Mining Laboratory
Lee, Sunjae, Ph.D. https://lifemining.gist.ac.kr

Biosensor & Molecular Diagnostics Laboratory
Kwon, Yong-Hoon, Ph.D. https://sites.google.com/view/thekwonlab

Centers

Cell Logistics Research Center
Director. Jun, Youngsoo, Ph.D.

Immune Synapse Research Center
Director. Jun, Chanu-Duk, Ph.D.

Korea Drosophila Resource Center
Director. Kim, Young-Joon, Ph.D.

Antiviral Research Center
Director. Jun, Youngsoo, Ph.D.

Student Interviews

Name **Orjin Han**
Nationality **Germany**
Program **Ph.D.**

How long have you been studying at GIST?

I'm currently a 2nd year PhD student, so it's been a little over a year.

What made you choose to study at GIST?

During my time in the US (where I was working on my Master's thesis), I had the chance to meet some GIST graduates. They told me about their experiences at GIST and highly recommended a PhD course, here. At the same time, I also encountered my current PI, who is an Associate Professor at GIST as well as in the US. Talking to him personally, finally, convinced me to come to Korea.

What are the best things about GIST?

I was lucky to gain experience in diverse labs in Germany as well as in the US throughout college, but I have to say that GIST has one of the best facilities. The labs are modern and equipped with latest devices and utensils. Also, the buildings and the campus in general are very neat, so that you can enjoy a nice work as well as leisure environment.

Are you satisfied with the support you receive from GIST?

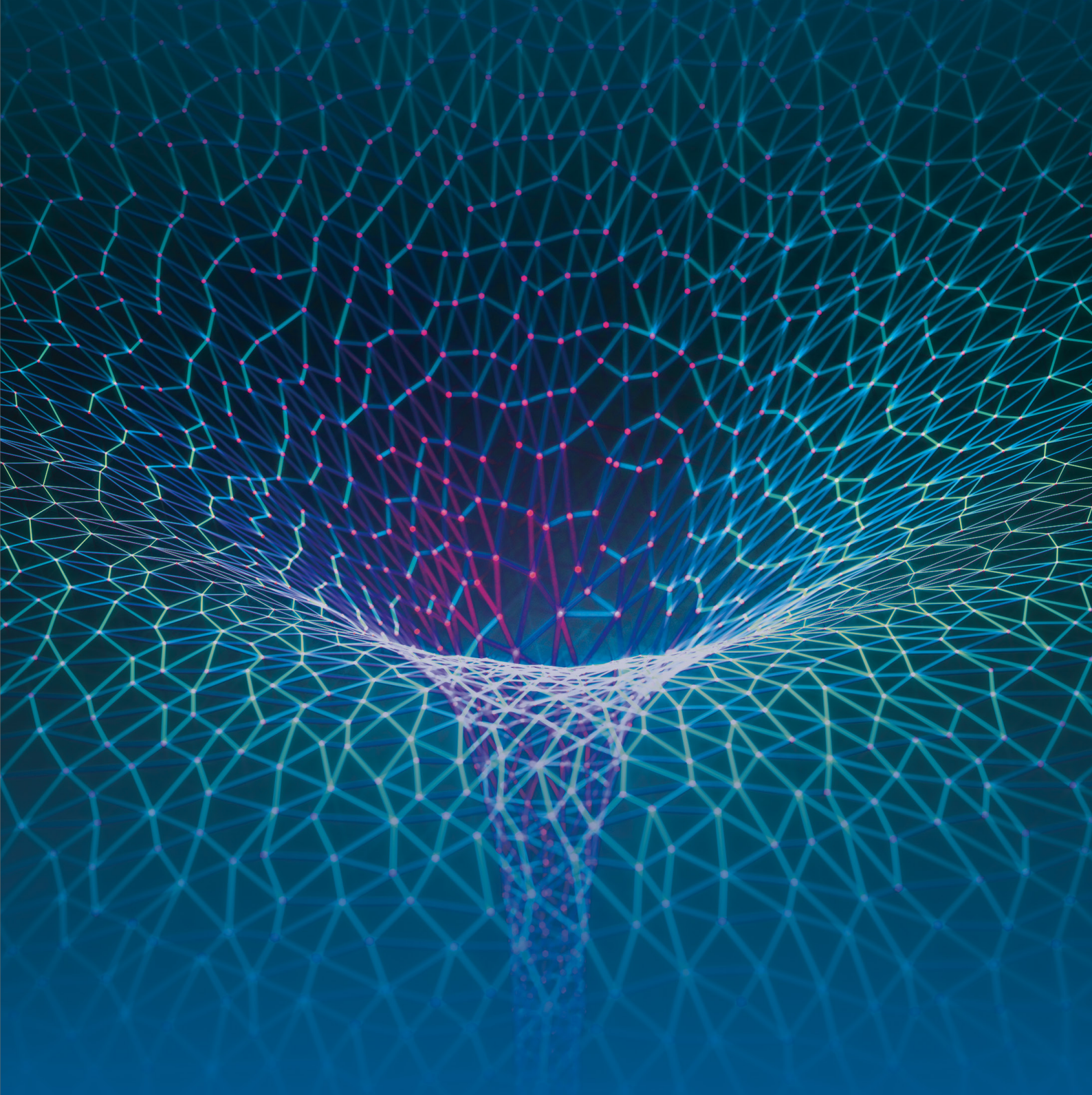
I think one of the best advantages GIST offers is that the tuition fee is waived and you can get financial support in several ways. I also really appreciate the support for international students in terms of events and activities.

What are your plans in terms of future studies and/or career after you complete your time at GIST?

I definitely want to pursue the next step of my academic career as a psotdoctoral researcher.

What advice would you give to new applicants hoping to enter a program at GIST I guess, this depends on where you are coming from. Even though I have a Korean background, having lived my whole life in Germany, I can only say that everything is different!

Nevertheless, the experience you will make here will not only give you the opportunity to grow and mature in regard to work/education but you will also be able to broaden your horizon.

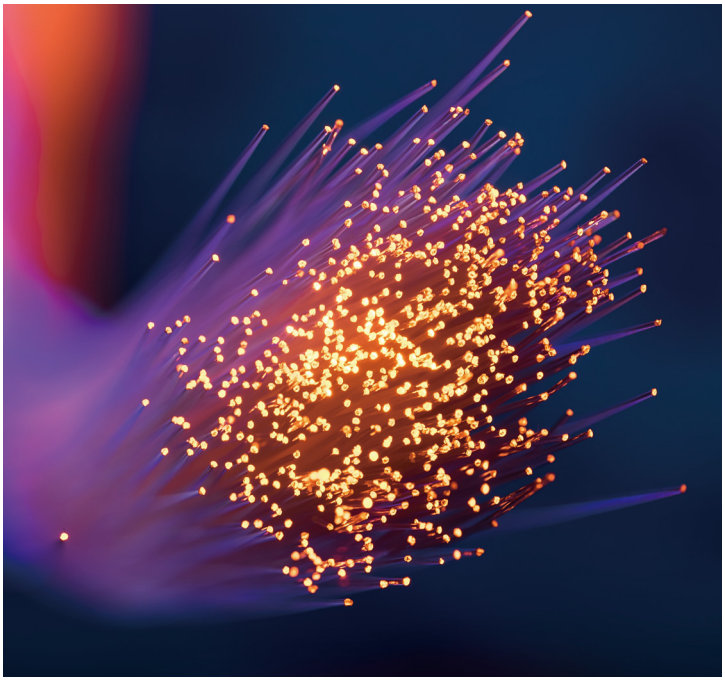


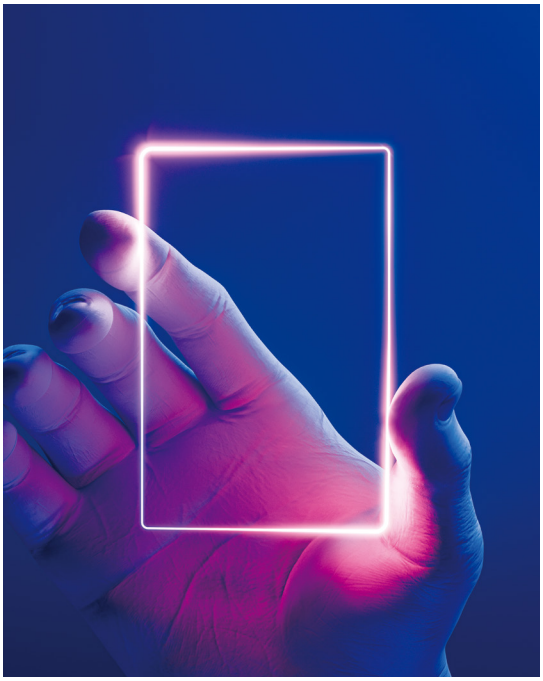
Department of

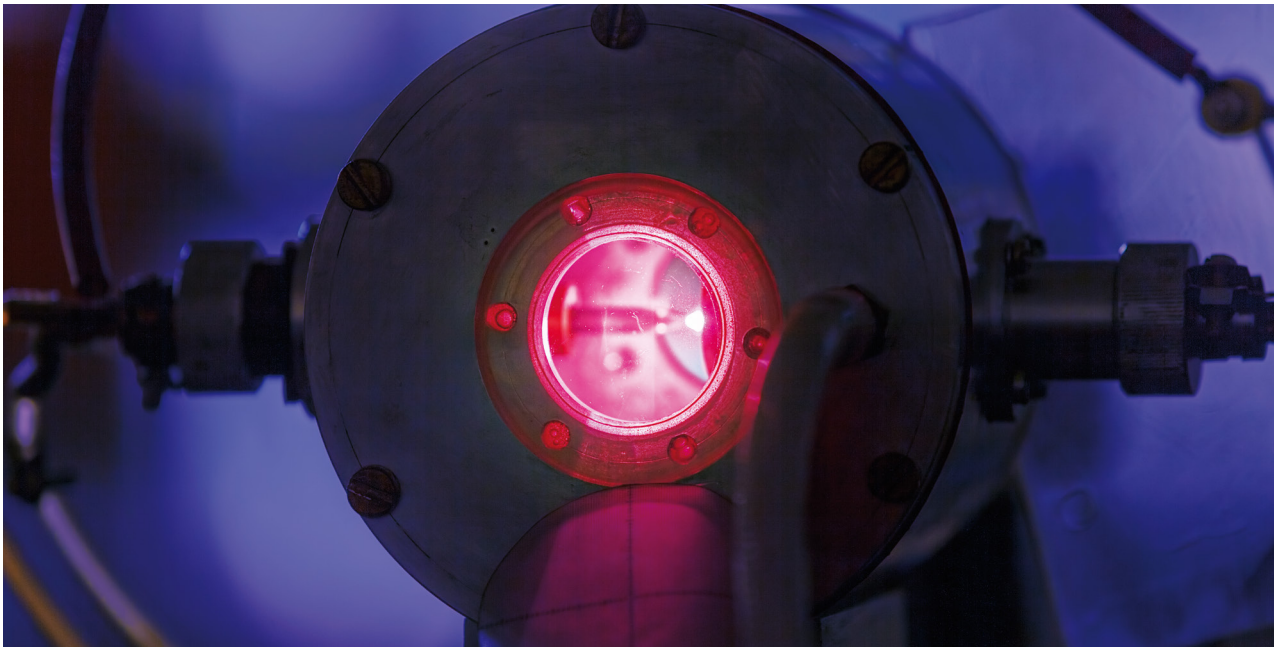
Physics and Photon Science

+82-62-715-2226 / 2884 phys@gist.ac.kr https://phys.gist.ac.kr/physeng/index.do

Department of
Physics and Photon Science





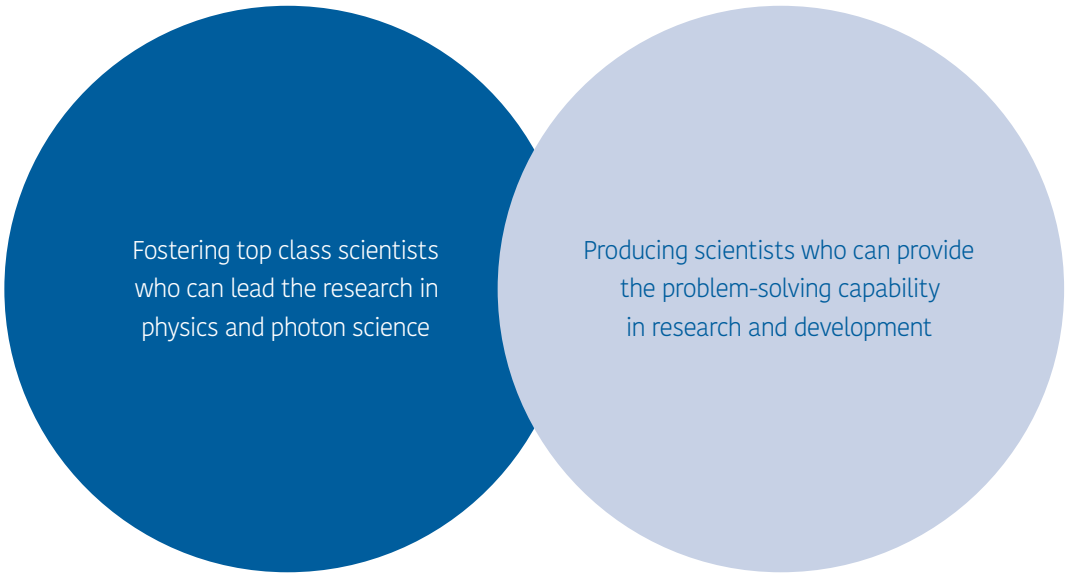


The Department of Physics and Photon Science at the Gwangju Institute of Science and Technology (GIST) aims at

· educating creative scientists in the field of physics and photon science
· conducting in-depth researches in the area of optics, plasma physics, condensed matter physics and particle physics, etc.

The Department of Physics and Photon Science was founded in the fall of 2012 to provide excellent education and research opportunities to graduate students in the field of physics and photon science, condensed matter physics and particle physics. The department has a short history, but we are growing very fast. The number of professors and graduate students will continue to increase for the next several years, and it will be a major department soon. At present, Department of Physics and Photon Science has strong research activities in the field of optics, plasma physics, condensed matter physics and particle physics.

Educational objectives



Participating organizations at GIST

Advanced Photonics Research Institute

Center of Relativistic Laser Science at IBS
(Institute for Basic Science)

Optics

- Attosecond science
- Quantum integrated photonics
- Relativistic Quantum Photonics
- Ultrafast optics and nonlinear optics
- Ultra High power lasers and high field laser science

Condensed Matter Physics

- Quantum device physics
- Surface science using X-rays
- Computational quantum physics
- Quantum information science and technology
- X-ray studies of nano condensed matter physics
- Optical spectroscopy for condensed matter physics

Plasma Physics

- Laser Fusion
- High energy density physics
- Intense laser and matter/Plasma interactions
- Particle acceleration and coherent radiations by laser plasmas

Particle Physics

- Gauge / gravity duality
- Field theory and string theory
- Gravitational understanding of strongly correlated systems

Faculty

RESEARCH AREA	NAME	EDUCATION	E-MAIL	PHONE
Optics	**Ko, Do-Kyeong** Professor	**Seoul National University** Ph.D. in optics	dkko@gist.ac.kr	+82-62-715-2227
	Kim, Kyung-Taec Associate Professor	**KAIST** Ph.D. in physics	kyungtaec@gist.ac.kr	+82-62-715-2854
Plasma Physics	**Bang, Woo-Suk** Assistant Professor	**University of Texas at Austin** Ph.D. in physics	wbang@gist.ac.kr	+82-62-715-5925
	Suk, Hyyong Professor	**University of Maryland at College Park** Ph.D. in plasma physics	hysuk@gist.ac.kr	+82-62-715-3350
	Cho, Byoung-Ick Associate Professor	**University of Texas at Austin** Ph.D. in plasma physics	bicho@gist.ac.kr	+82-62-715-2879
Condensed Matter Physics	**Kim, Dong-Hee** Associate Professor	**KAIST** Ph.D. in Physics	dongheekim@gist.ac.kr	+82-62-715-2883
	Noh, Do-Young Professor	**Massachusetts Institute of Technology** Ph.D. in Physics	dynoh@gist.ac.kr	+82-62-715-2311
	Doh, Yong-Joo Professor	**POSTECH** Ph.D. in Physics	yjdoh@gist.ac.kr	+82-62-715-5921
	Mun, Bong-Jin Simon Professor	**University of California Davis** Ph.D. in Physics	bsmun@gist.ac.kr	+82-62-715-2882
	Shin, Dongbin Assistant Professor	**UNIST** Ph.D. in Physics	dshin@gist.ac.kr	+82-62-715-5937
	Yu, Un-Jong Associate Professor	**POSTECH** Ph.D. in Physics	uyu@gist.ac.kr	+82-62-715-3629
	Lee, Sang-Yun Assistant Professor	**University of Utah** Ph.D. in Physics	sangyunlee@gist.ac.kr	+82-62-715-5931

RESEARCH AREA	NAME	EDUCATION	E-MAIL	PHONE
Condensed Matter Physics	**Lee, Jong-Seok** Professor	**Seoul National University** Ph.D. in Physics	jsl@gist.ac.kr	+82-62-715-2222
Particle Physics	**Kim, Keun-Young** Professor	**State University of New York at Stony Brook, USA** Ph.D. in Physics	fortoe@gist.ac.kr	+82-62-715-3648

Full-teaching Professors

Particle Physics	**Park, Chan-Yong** Associate Professor	**Hanyang University** Ph.D. in Theoretical Physics	cyong21@gist.ac.kr	+82-62-715-5930
	Yang, Hyun-Seok Associate Professor	**Sogang University** Ph. D. Theoretical Physics	hsyang@gist.ac.kr	+82-62-715-5934

Distinguished Visiting Professor

Optics	**Nam, Chang-Hee** Professor	**Princeton University** Ph.D. in Plasma Physics	chnam@gist.ac.kr	+82-62-715-4701

Adjunct Professors

Condensed Matter Physics	**Hwang, Chi-Ok** Adjunct Professor	**Univ. of Southern Mississippi** Ph.D. in Scientific Computing	chwang@gist.ac.kr	+82-62-715-3627
Optics	**Kee, Chul Sik** Adjunct Professor	**KAIST** Ph.D. in physics	cskee@gist.ac.kr	+82-62-715-3426
	Kim, Chul Min Adjunct Professor	**KAIST** Ph.D. in physics	chulmin@gist.ac.kr	+82-62-715-4710

Labs, Centers

Optics

Laboratory for Ultrafast Nonlinear Optics (LUNO)
Ko, Do-Kyeong https://phys.gist.ac.kr/ultrafast/

Attosecond Science Laboratory
Kim, Kyung-Taec https://phys.gist.ac.kr/atto/

Plasma Physics

Laser Fusion Laboratory
Bang, Woo-Suk https://phys.gist.ac.kr/laserfusion/

Laser Plasma Acceleration Laboratory
Suk, Hy-Yong https://phys.gist.ac.kr/lpal/

High Energy Density Physics and Ultrafast X-ray Laboratory
Cho, Byoung-ick https://phys.gist.ac.kr/hedp/

Particle Physics

Field Theory and String theory Group
Kim, Keun-Young https://phys.gist.ac.kr/gctp/

Condensed Matter Physics

Computational Many-body Physics Group
Kim, Dong-Hee https://phys.gist.ac.kr/stat/

X-ray Laboratory for Nano Scale Phenomena (X-Ray Lab.)
Noh, Do-Young https://phys.gist.ac.kr/x-ray/

Nano-hybrid Quantum Devices Laboratory
Doh, Yong-Joo https://phys.gist.ac.kr/qdev/

Laboratory for Electron Spectroscopy for Surface/Interface Chemical Analysis (ESCA)
Mun, Bong-Jin Simon https://phys.gist.ac.kr/gistesca/

Theoretical Condensed Matter Physics
Shin, Dongbin https://sites.google.com/view/gist-dshin

Computational Condensed Matter Physics Laboratory
Yu, Un-Jong https://phys.gist.ac.kr/ccmp/

Spin and Quantum Information Laboratory
Lee, Sang-Yun https://sites.google.com/view/gist-sqil

Laboratory for Spectroscopy of Condensed matter Physics
Lee, Jong-Seok https://phys.gist.ac.kr/optogist/

Student Interviews

Name **Fu, Yichao**
Nationality **China**
Program **Ph.D.**

How long have you been studying at GIST?

I have been studying at GIST for one semester since March 2023.

What made you choose to study at GIST?

GIST is very generous on sponsoring scholarships to graduate students. And the research in theoretical physics is very strong and dynamic.

What are the best things about GIST?

The best thing about GIST is that you can have everything basically on campus. And there are lots of stores you need within 20-min walk from campus. There is also a nice park right next to the main gate.

Are you satisfied with the support you receive from GIST?

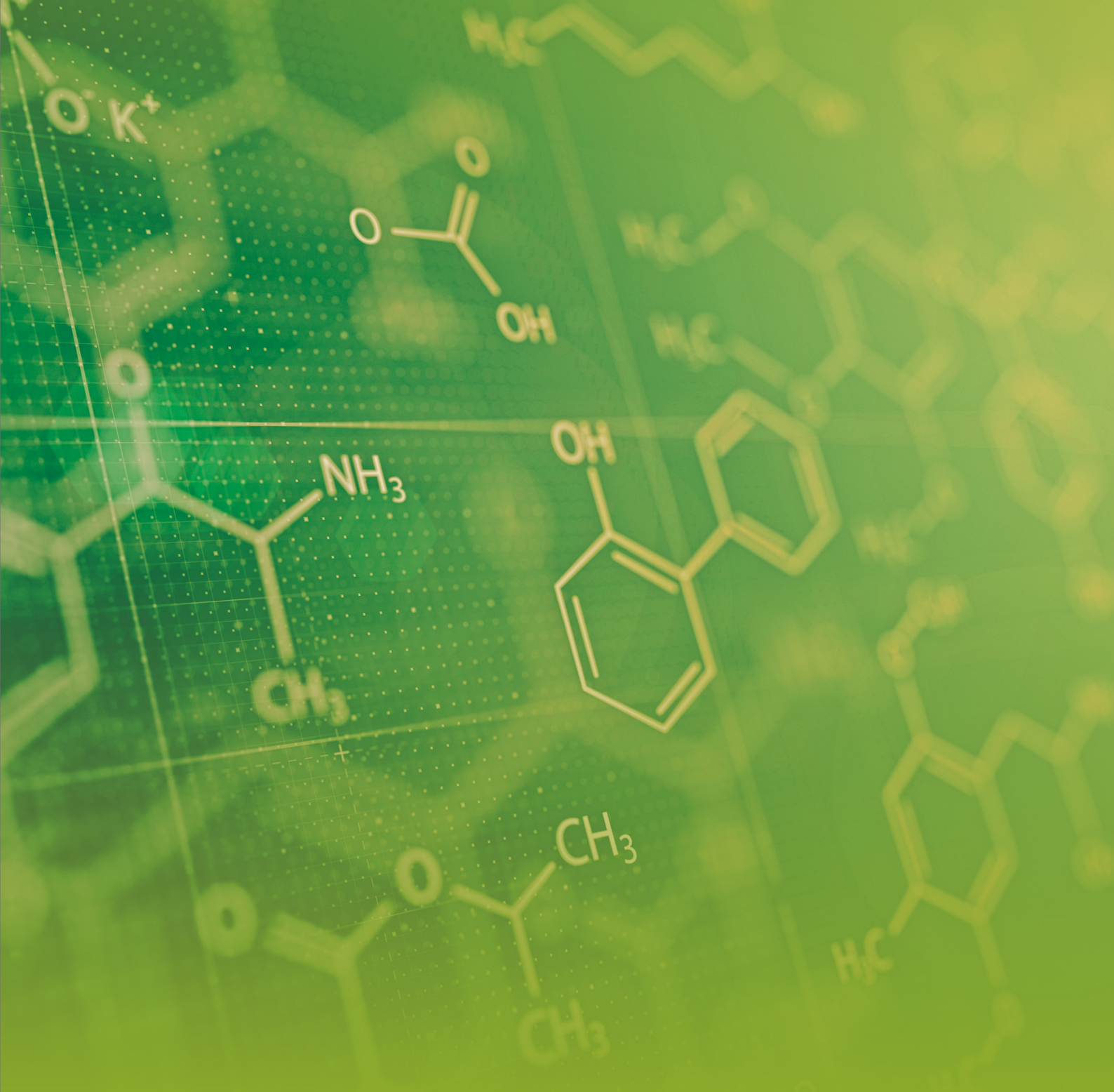
I am very satisfied with the support I got from both Professor and University. I am able to cover all the expenses of living in Gwangju. With such support, I am able to focus only on study and research.

What are your plans in terms of future studies and/or career after you complete your time at GIST?

After completing my Ph.D. study here, I would prefer to continue my academic career as a post-doctoral researcher.

What advice would you give to new applicants hoping to enter a program at GIST?

My advice for applicants is to try to make yourself prepared for research. The best way is of course to familiarize with the research of the lab you want to join in GIST.



Department of

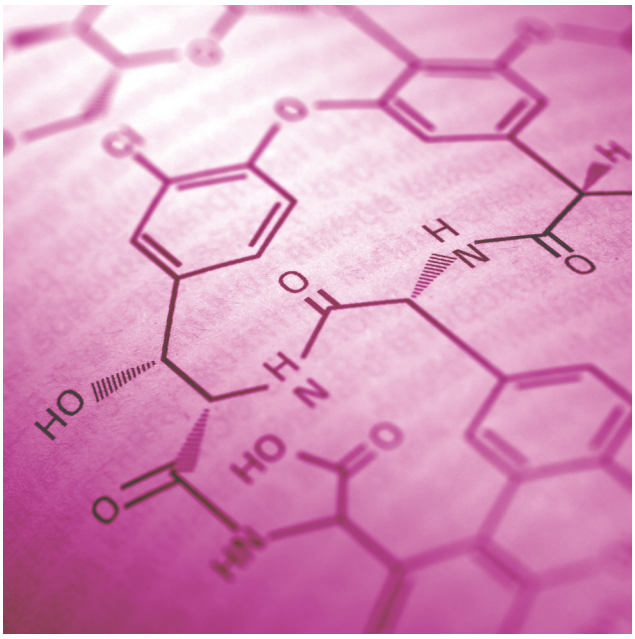
Chemistry

+82-62-715-2860

chem@gist.ac.kr

https://chem.gist.ac.kr

Department of **Chemistry**



Chemistry is a molecular science that attempts to understand and control the properties of substances and their reactions. Pioneering research is performed in the Department of Chemistry at GIST by the cooperative efforts of molecular scientists, who are involved in basic studies with the aim of understanding the fundamental properties of molecular world, and molecular engineers, who pursue creative applications of knowledge in the behavior of molecular systems. These research activities require a clos connection with physics and biological sciences. Applied methods and techniques obtained from studies in chemistry and molecular engineering can have an immense influence on various fields like material science, environmental science, medical and pharmaceutical sciences, agricultural science, and information technology. The graduate (M.S. and Ph.D.) program in GIST Chemistry aims to provide a suitable environment and necessary guidance to enable students to become independent scientists. The main focus of the program is research. Through active participation in original research, students can develop their creativity and become fully prepared for successful career in an academic or industrial field.

The Department offers in-depth programs of study in the major chemical disciplines (Organic, Inorganic, Physical, Analytical, and Biological Chemistry), as well as Nano-technology, Chemical Biology, and Materials Chemistry, and Nano-bioimaging.

Organic Chemistry

- Synthetic methodology and catalyst development
- Natural product synthesis
- Medicinal chemistry and drug discovery
- Molecular sensors and high-throughput screening
- Peptides and peptidomimetics

Fundamental understanding of chemical reactivity leads to the development of novel synthetic methods, which can be utilized for the effective synthesis of unprecedented molecular frameworks with novel functions. At GIST, synthetic studies on a variety of organic molecules are actively ongoing. These small or macromolecules have applications in the field of medicine, sensors, catalysts, and materials with a wide variety of functions. Collaborative research with other disciplines is actively undergoing to elucidate structures and properties of the new compounds.

Biological Chemistry

- Enzymology & biochemistry
- Structural biology
- Biosensors and bio-Instruments

The goal of biological chemistry is to advance our knowledge of the molecular mechanisms of biochemical processes by applying the principles of chemistry to biological systems. Research areas in the biological chemistry division encompass Structural Biology experiments on proteins and nucleic acids by using X-ray crystallography and NMR spectroscopy, and the development of biosensors utilizing nanodevices and optics. Our basic research findings are translated into the bases for medical applications in disease diagnostics and noble drug design.

Physical Chemistry

- Realtime 3D imaging
- Photochemistry and spin chemistry
- Time-resolved spectroscopy and dynamics
- Molecular dynamics simulations

Physical chemistry is a molecular level study of the physical properties and chemical reactions based on fundamental physics principles. It includes the development of new experimental techniques and applications to the investigation of the structures and dynamics of molecular systems. The physical chemistry division is pursuing advanced experimental and theoretical researches including ultrafast reaction dynamics, nonlinear optical imaging and spectroscopy, live-cell imaging, etc. These efforts are not only the limited to the elucidation of the fundamental chemical phenomena, but also aim to solve various impending problems such as energy, environment, and medical-nanobio imaging diagnosis and therapy in collaboration with other disciplines such as biology, medicine, and materials science.

Inorganic Chemistry

- Synthetic modeling of metalloenzyme active site
- Organometallic catalyst development
- Hybrid molecular material catalyst for the solar fuels research

Inorganic chemistry at GIST includes bioinorganic, organometallic, and solar fuels research topics. Synthetic modeling of the metalloenzyme active site provides fundamental understanding on the natural strategy to utilize coordination complexes in the enzyme activity. Synthesis of transition metal complexes can lead to the development of catalysts, promoting valuable organic reactions in the chemical industry. In another area of inorganic chemistry including materials, the integration of molecules with material surface can develop hybrid molecular materials to exhibit both merits of homogeneous and heterogeneous catalysts. The inorganic and molecular modification of Si semiconductor surface is ongoing research interest in the solar fuels research.

Analytical Chemistry

- Surface Analytical Chemistry
- Nanoscale Material Chemistry
- Biosensors and Bio-Instruments
- Electrochemistry

Analytical Chemistry is a branch of chemistry that deals with the separation, identification and quantification of chemical species. Analytical chemistry plays an important role in the various fields of natural science to characterize the properties of chemical compound and materials, such as chemical structures and compositions, which is based on the fundamental understanding of natural sciences. In the department of chemistry at GIST, we are studying surface plasmon resonance, fluorescence and biosensor using nanodevices. Also, we are trying to develop the synthetic methods for 2D nanomaterials like graphene and to fabricate the outstanding photoelectric devices with 2D nanomaterials. Our efforts on analytical chemistry do not only extend fundamental understanding, but also contribute to resolve social problems.

Faculty

NAME	EDUCATION	E-MAIL	PHONE
Ahn, Jin Hee Professor	**Sogang University** Ph.D. in Chemistry	jhahn@gist.ac.kr	+82-62-715-4621
Choi, Jun-Ho Professor	**Seoul National University** Ph.D. in Physical Chemistry	junhochoi@gist.ac.kr	+82-62-715-4626
Chung, Won-jin Associate Professor	**University of Illinois at Urbana Champaign** Ph.D. in Chemistry	wjchung@gist.ac.kr	+82-62-715-2847
Han, Min Su Professor	**Pohang University of Science & Technology** Ph.D. in Chemistry	happyhan@gist.ac.kr	+82-62-715-2848
Hong, Sukwon Professor	**Northwestern University** Ph.D. in Chemistry	shong@gist.ac.kr	+82-62-715-2346
Imada, Hiroshi Associate Professor	**Tokyo Institute of Technology** Ph.D. in Condensed Matter Physics	himada@gist.ac.kr	+82-62-715-4643
Kim, Hyun Woo Assistant Professor	**Pohang University of Science & Technology** Ph.D. in Chemistry	hwk@gist.ac.kr	+82-62-715-4640
Kim, Jungwook Associate Professor	**Texas A&M University** Ph.D. in Chemistry	jwkim@gist.ac.kr	+82-62-715-4622
Kim, Min-Gon Professor	**Pohang University of Science & Technology** Ph.D. in Chemical Engineering	mkim@gist.ac.kr	+82-62-715-3330
Kim, Sangryun Associate Professor	**Tokyo Institute of Technology** Ph.D. in Electronic Chemistry	sangryun@gist.ac.kr	+82-62-715-5328

NAME	EDUCATION	E-MAIL	PHONE
Kim, Yousoo Professor	**University of Tokyo** Ph.D. in Applied Chemistry	yousoo@gist.ac.kr	+82-62-715-4770
Lee, Hohjai Associate Professor	**University of California at Berkeley** Ph.D. in Chemistry	hohjai@gist.ac.kr	+82-62-715-2863
Lee, Kang Taek Professor	**Seoul National University** Ph.D. in Physical Chemistry	ktlee@gist.ac.kr	+82-62-715-3685
Lim, Hyunseob Associate Professor	**Pohang University of Science and Technology** Ph.D. in Chemistry	hslim17@gist.ac.kr	+82-62-715-4634
Pak, Chanho Professor	**Korea Advanced Institute of Science and Technology** Ph.D. in Chemistry	chanho.pak@gist.ac.kr	+82-62-715-5324
Pang, Yoonsoo Professor	**University of Illinois at Urbana Champaign** Ph.D. in Physical Chemistry	ypang@gist.ac.kr	+82-62-715-2871
Park, Chin-Ju Professor	**Korea Advanced Institute of Science and Technology** Ph.D. in Chemistry	cjpark@gist.ac.kr	+82-62-715-3630
Park, Jeong-Eun Assistant Professor	**Seoul National University** Ph.D. in Inorganic Chemistry	parkje@gist.ac.kr	+82-62-715-4639
Seo, Jiwon Chair, Professor	**Northwestern University** Ph.D. in Chemistry	jseo@gist.ac.kr	+82-62-715-3628
Seo, Junhyeok Professor	**Brown University** Ph.D. in Inorganic Chemistry	seojh@gist.ac.kr	+82-62-715-4625

Labs

Organic Chemistry

Medicinal Chemistry Lab
Prof. Ahn, Jin Hee https://mcl.gist.ac.kr

Organic Synthesis Lab
Prof. Chung, Won-jin https://orgsyn.gist.ac.kr

BioOrganic Chemistry Lab
Prof. Han, Min Su https://boc.gist.ac.kr

Functional Organic Molecules Synthesis Lab
Prof. Hong, Sukwon https://fos.gist.ac.kr

Peptide Drug Discovery Lab
Prof. Seo, Jiwon https://sites.google.com/view/peptoid

Physical Chemistry

Computational Chemistry Lab
Prof. Choi, Jun-Ho https://sites.google.com/view/comp-chem-gist

Molecular Quantum Science Lab
Prof. Imada, Hiroshi https://ibs.re.kr/qcr/

Quantum Chemical Simulation Lab
Prof. Kim, Hyun Woo https://sites.google.com/view/hwk-grp

Photonic Quantum Chemistry Lab
Prof. Lee, Hohjai https://hohjai.gist.ac.kr

Nanobio Photonics Lab
Prof. Lee, Kang Taek https://bpc.gist.ac.kr

Energy Spectroscopy Lab
Prof. Pang, Yoonsoo https://femto.gist.ac.kr

Inorganic Chemistry

Solid-state Chemistry & Energy science Lab
Prof. Kim, Sangryun https://www.ssce-gist.com

Chemical Nanoplasmonics Lab
Prof. Park, Jeong-Eun https://jeparklab.com/

Hybrid Catalysts Lab
Prof. Seo, Junhyeok https://inorg.gist.ac.kr

Biological Chemistry

Structure-Function Discovery Lab
Prof. Kim, Jungwook https://sfdl.gist.ac.kr

Biosensors and Bio-Photonics Lab
Prof. Kim, Min-Gon http://bsbp.gist.ac.kr/

Structural Biochemistry Lab
Prof. Park, Chin-Ju https://bionmr.gist.ac.kr

Analytical Chemistry

Center for Quantum Conversion Research
Prof. Kim, Yousoo https://ibs.re.kr/qcr/

Nanoscale Surface Chemistry Lab
Prof. Lim, Hyunseob https://tetoslim.wixsite.com/nscl

Energy Catalyst and Device Lab
Prof. Pak, Chanho https://catalyst.gist.ac.kr/

Student Interviews

Name **Salsabila Salma Dienta**
Nationality **Indonesia**
Program **M.S./Ph.D.**

How long have you been studying at GIST?

I entered GIST in Fall, of 2020. It has been almost 2 years since I studied at GIST.

What made you choose to study at GIST?

I had good impression during my internship when I was in my final year of undergraduate. GIST has suitable environment for doing research which makes its students easy to stay focus. Through the internship, I also found my interest in the field of lab I was working on.

What are the best things about GIST?

GIST offers some internship programs for international students who are in their final year of undergraduate or masters which can make it as a way to gain insight and more details about the lab's study field and working environment before deciding to continue study.

GIST's good reputation for its citation and publication makes GIST a best choice to develop students path career especially for those who want to pursue their career in research and academic.

What are your plans in terms of future studies and/or career after you complete your time at GIST?

After my graduation, I am going to apply some postdoc opportunities. Exploring science through research has always been my passion.

What advice would you give to new applicants hoping to enter a program at GIST?

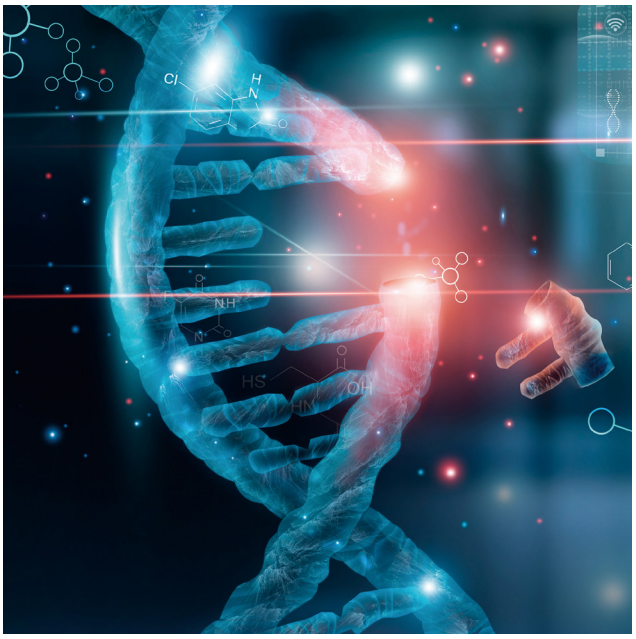
The first thing that you need to know is your true motive in joining every single program held by GIST. The same goes when you are going to continue study, since every decision you take will have responsibility, make sure that you put a strong determination into the decision.

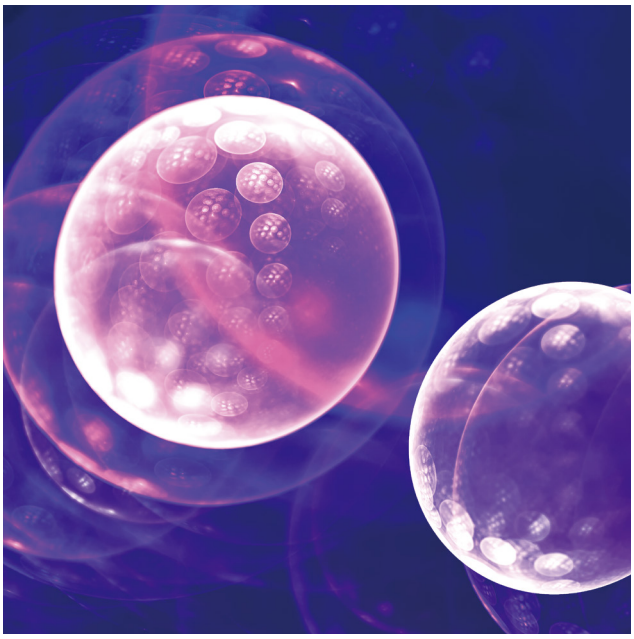
Department of

Biomedical Science and Engineering

+82-62-715-5312 bmse@gist.ac.kr https://bmse.gist.ac.kr/bmseeng

Department of **Biomedical Science and Engineering**





As a new multidisciplinary research and education program, the Department of Biomedical Science and Engineering(BMSE) was established in spring 2008 with the mission of promoting integrative researches in Biomedical Science and Engineering.

All faculty members of BMSE are recognized as world-class researchers in their specialties. The ongoing research topics include optical system design for biomedical applications, neuro signal analysis, neuromodulation, a study on sleep and consciousness, peroxisome and lipid metabolism, genomic medicine, aging and metabolic disease, and so on. In 2019, a multi-million dollar grant allowed BMSE to establish the “AI Center for Medical Science (AICMS)” with a goal to discover cancer-specific metabolic targets using artificial intelligence technology. AICMS will be a hub to integrate medical science with AI technology to produce new cancer therapeutic agents.

BMSE invites extremely energetic applicants pursuing advanced degrees (M.S., Ph.D.) in biomedical science and engineering. Especially, candidates who have majored in western or oriental medicine, as well as engineering or science backgrounds, are strongly encouraged to apply.

With world-class faculty members and collaborating physicians in affiliated hospitals, we provide BMSE students top-class educational opportunities to become a future professor, physician-scientist, biomedical researcher, or CEO/CTO in medical start-ups.

Immune & Metabolism

- Post-transcriptional Regulation of Immune System
- Anti-cancer Microbiome
- Regulation of Aging and Metabolic Stress
- Lipid Metabolism Dysfunction
- Cancer Metabolism
- Aging, age associated diseases and anti-aging drugs

The research groups of Immune and Metabolism aim to unveil novel molecular pathways underlying immune and metabolic regulation, which may lead to development of new therapies for immune and metabolic disorders

Biophotonics

- Neurophotonics
- Next Generation Biophotonic Imaging
- Photomedicine as a diagnostic and therapeutic tool

Biophotonics covers a variety of research areas but BMSE at GIST focuses on developing next-generation biophotonic imaging technology, neurophotonics to uncover and modulate the brain function, and photomedicine to diagnose and to treat diseases.

Brain Science & Neuro Engineering

- Neuromodulation
- Neural Circuit Connectomics
- AI-based Brain Imaging & Signal Processing
- Brain-Body Dynamics

In the division of science and neuroengineering, we are exploring the pathomechanisms of neurologic and psychiatric diseases in central nervous system (CNS) and the novel therapies for them. Specifically, state-of-the-art technologies, such as neuromodulation, neural connectomics, and AI-based processing of imaging data and biosignals, are actively applied to CNS disorders such as dementia, autism, sleep disorders, and cerebral infarction.

Faculty

NAME	EDUCATION	E-MAIL	PHONE
Cho, Jun Assistant Professor	**Seoul National Univ.** Ph.D. in Biological Sciences	juncho@gist.ac.kr	+82-62-715-5369
Chung, Eui-Heon Professor	**Harvard-MIT Health Sciences and Technology(HST) MEMP Program** Ph.D. in Biomedical Engineering	ogong50@gist.ac.kr	+82-62-715-2753
Kim, Jae Gwan Professor	**Univ. of Texas, Arlington and UT South Western Medical Center Dallas** Ph.D. in Biomedical Engineering	jaekim@gist.ac.kr	+82-62-715-2220
Kim, Tae Associate Professor	**Kyung Hee Univ.** M.D. in Medicine / Ph.D. in Psychiatry	tae-kim@gist.ac.kr	+82-62-715-5363
Kwon, Hyuk-Sang Associate Professor	**Massachusetts Institute of Technology** Ph.D. in Mechanical Engineering	hyuksang@gist.ac.kr	+82-62-715-2403
Lee, Bo-Reom Professor	**Seoul National Univ.** M.D. in Medicine / Ph.D. in Biomedical Engineering	leebr@gist.ac.kr	+82-62-715-3272
Oh, Chang-Myung Associate Professor	**Yonsei Univ.** M.D. in Medicine **KAIST** Ph.D. in Medical Science and Engineering	cmoh@gist.ac.kr	+82-62-715-5377
Park, Han-Soo Associate Professor	**Seoul National Univ.** M.D. in Medicine / Ph.D. in Biochemistry	Hspark27@gist.ac.kr	+82-62-715-5364
Park, Rae-Kil Professor	**Wonkwang Univ.** M.D. in Medicine **Chonnam National Univ.** Ph.D. in Medicine	rkpark@gist.ac.kr	+82-62-715-5361
Ryu, Dongryeol Associate Professor	**SKKU School of Medicine** Ph.D. in Molecular Cell Biology	dryu@gist.ac.kr	+82-62-715-5374
Lee, Sangjun Associate Professor	**California Institute of Technology (Caltech)** Ph.D. in Neurobiology	sleefos24@gist.ac.kr	+82-62-715-5381

Labs

Immune & Metabolism

Lab of Peroxisomes & Lipid Metabolism
Prof. Park, Rae-Kil https://bmse.gist.ac.kr/peroxisomes

Lab of Genomic Medicine
Prof. Park, Han-Soo https://bmse.gist.ac.kr/genomic-medicine

Lab of Molecular Biomedical Sciences
Prof. Cho, Jun https://bmse.gist.ac.kr/

Lab of Aging and Metabolic disease
Prof. Oh, Chang-Myung https://sites.google.com/view/cmohlab/home

Molecular and Integrative Biology (MIB) Lab
Prof.Ryu, Dongryeol https://dongryeolryu.wixsite.com/ryulab

Biophotonics

Lab of 3D Biomedical Image & Technology
Prof. Kwon, Hyuk-Sang https://bmse.gist.ac.kr/3dbit/

Theranostics by Electro Digital Technology Laboratory (TEDi Lab)
Prof. Kim, Jae Gwan http://biophotonics.gist.ac.kr

Lab of Neurophotonics
Prof. Chung, Eui-Heon https://bmse.gist.ac.kr/neurophotonics/

Brain Science & Neuro Engineering

Bio-Medical Information & Signal (BMIS) Lab
Prof. Lee, Bo-Reom https://bmis.gist.ac.kr

Lab of Translational Neuroscience
Prof. Kim, Tae https://t-neurolab.gist.ac.kr

Brain-Body Dynamics Lab
Prof. Sangjun Lee https://www.sleelabbrainbodydynamicslab.com

Student Interviews

Name **Hoang Gia Minh**
Nationality **Vietnam**
Program **Ph.D.**

How long have you been studying at GIST?

I have been studying at GIST for 4 years. In 2019, I first came to GIST as a master's student in Biomedical Science and Engineering. After my graduation in 2021, I took a 6-month vacation and came back for the Ph.D. program last year.

What made you choose to study at GIST?

In 2019, as an undergraduate student, I found GIST information through an international conference. I was impressed with how the GISTs presenter conveyed motivation and novelty as well as the state-of-the-art technology of his research in the conference poster. I was like, " Wow, look at how professional this institute is". Inspired by that, I came back to college and found out more about GIST. The more information I found, the more impressed I was with the innovation in technology, friendliness in people, and professionalism in research of GIST. That's why I chose GIST for my master's degree.

What are the best things about GIST?

The best thing about GIST is its excellent education and research. GIST stands at the forefront of innovation, consistently pushing boundaries and driving advancements in various fields. All laboratories provide a nurturing environment that encourages intellectual curiosity and a passion for knowledge. One of the standout features of GIST is its distinguished faculty. The professors are experts in their respective fields. Their expertise and guidance create a stimulating learning environment that challenges and inspires students to reach their full potential. Moreover, GIST is equipped with the best facilities and state-of-the-art laboratories, enabling students to engage in groundbreaking research and experiments.

Are you satisfied with the support you receive from GIST?

I am extremely satisfied with the support I have received from GIST. From the moment I became a part of this institute, I have experienced unparalleled guidance and assistance at every step of my academic journey. The faculty at GIST is exceptionally knowledgeable and dedicated. They go above and beyond to ensure that students receive the best support possible. Additionally, the university's support services are outstanding. The library resources are vast and readily available, allowing me to access a wide range of academic materials. The administrative staff is friendly, approachable, and efficient in addressing any queries or concerns I may have.

What are your plans in terms of future studies and/or career after you complete your time at GIST?

After completing my Ph.D. at GIST, I have ambitious plans for my future studies and career. Building upon the foundation of knowledge and skills gained during my Ph.D., I aim to delve deeper into my field of expertise and make meaningful contributions to scientific advancements. First and foremost, I plan to embark on a postdoctoral research position at GIST or collaborate with leading experts in my field. This opportunity would enable me to collaborate with leading experts, broaden my research horizons, and further refine my expertise. Simultaneously, I plan to engage in teaching and mentoring activities to share my knowledge and inspire the next generation of researchers. The joy of guiding aspiring researchers and witnessing their growth is immensely fulfilling to me.

What advice would you give to new applicants hoping to enter a program at GIST?

Thoroughly research the program you are applying to and understand its focus areas, faculty expertise, and curriculum. Embrace the spirit of curiosity and be open to learning. GIST is renowned for its rigorous curriculum and cutting-edge research opportunities. Take full advantage of the resources available to you, such as the library, faculty, and fellow students. Engage in discussions, ask questions, and explore different perspectives. This will not only deepen your understanding but also foster meaningful connections within the academic community. Furthermore, seek out extracurricular activities and networking opportunities. GIST offers a wide range of clubs, events, and conferences where you can meet like-minded individuals, expand your horizons, and develop essential skills beyond the classroom. These experiences will enhance your overall learning journey and open doors to future collaborations and opportunities.

* The AI Graduate School and the Integrated Technology program are merged to Department of AI Convergence from February 2025. If you wish to apply to the AI Graduate School or the Integrated Technology, please apply to the Department of AI Convergence instead.

Department of
AI Convergence

+82-62-715-6356
ai@gist.ac.kr
https://ai.gist.ac.kr

Department of AI Convergence

The Department of AI Convergence, launched in February 2025 through the merge of the former AI Graduate School and the School of Integrated Technology, brings together GIST's leading strengths in fundamental AI research and hands-on convergence engineering. Our unified mission is to cultivate integrated-AI professionals who can move seamlessly from the discovery of novel problems to the creation of deployable solutions that generate common value for industry and society. The school has manifested two main plans: T.R.A.I.N. will help students Teach themselves in Recreations and become Adapted to the environment of Industries, ultimately generating New values; and G.I.S.T. AI for X, on the other hand, inspires students to Generalize and Integrate core technologies of AI in a Safe/Swift manner with sufficient Transferability. These plans are incorporated with the hands-on convergence training for enabling students leading their own creative education.

Our twenty full-time faculty members, who are experts on research and education and professionals in the fields of traditional AI such as machine learning, deep learning, evolutionary learning, computer vision, data mining, natural language processing, and network reinforcement learning. They have published 289 SCI-indexed papers over the past five years, amassing roughly 1400 impact-factor points. They have also been recognized with their research capability, proven with numerous publications in the top AI conference proceedings including CVPR, ICCV, ECCV, CHI, ICML, and ICLR. In the same period, they have guided 171 graduates (140 master's, 31 Ph.D.) who now excel in global corporations, cutting-edge start-ups, and academia. Their research powers collaborative initiatives in healthcare, autonomous mobility, intelligent robots, and culture technology, underpinned by sponsored projects that have attracted a cumulative 40 billion KRW for recent three years.

AI Core Technologies

- Machine Learning & Deep Learning
- Evolutionary Computation
- Natural Language Processing
- Computer Vision

The core cluster designs and advances fundamental AI algorithms to accomplish generalizable, integrated, safe, and transferable AI by spanning self-supervised representation learning, probabilistic reasoning, scalable optimization, and trustworthy AI. These core improvements lead to the human-level and super-human AIs, supplying every higher-level research activity with rigorous theory and tools.

AI for Intelligent Robotics

- Perception, Planning, Control
- Autonomous & Service Robots
- Human–Robot Interaction (HRI)
- Rehabilitation & Wearable Robots

This cluster fuses AI with mechatronics to build robots that sense, decide, and act in the real world. Emphasis is placed on hands-on prototyping and HRI, enabling next-generation mobility, assistive devices, and soft-robotic applications. A strong hands-on culture guides students through the entire mechatronic pipeline—design, rapid prototyping, real-time experimentation, and clinical/industrial validation.

AI for Culture Technology

- Digital Art & Exhibition Tech
- Multimodal Display & XR/VR UX
- Human-Computer Interaction (HCI)

The culture technology cluster explores how AI augments digital art, exhibition systems, immersive XR/VR, and next-generation displays. Work covers generative storytelling, affective computing, multimodal interaction, and metaverse user experience. By combining deep learning with HCI methodology, the cluster creates adaptive content that responds to audience emotion and context, paving the way for inclusive creative platforms and novel cultural services.

AI for Automobile

- Sensor Fusion & Object Recognition
- Autonomous Driving
- Tangible AI for In-Vehicle UX

AI for automobile is settled to build an automobile system that implements object recognition, safe driving, and human-centered intelligence. In specific, integrated technologies of sensor fusion and object recognition contribute to safe driving that is robust to environmental variances. Human-centered intelligence designs an autonomous vehicle system that supports a driver in driving and infortainment services with less physical and mental workload through in-depth verification of human-computer interaction and psychophysical analysis.

AI for Healthcare

- Disease Prediction & Diagnosis
- Biological Simulation & Precision Medicine
- VR/AR Medical Interfaces
- AI-Driven Drug Discovery
- Brain Engineering

The fundamental goals for healthcare in AI are prevention, diagnosis, and therapy of diseases. By using data captured from biological multimodal sensors, healthcare AI diagnoses diseases at the early-stage and reduces costs and time for developing drugs. Also, it helps medical experts find the best therapy or provides potential therapy for personalized medicine.

AI for Energy

- AI Infrastructure
- Reinforcement Learning in Networks
- AI for Energy Informatics
- Smart Energy System

Energy-focused teams develop AI that monitors, forecasts, and manages energy for efficient, smart, and safe generation and consumption of energy. In energy monitoring, integrated data monitoring AI collects and analyzes renewable and behind-the-meter energy data collected from a hierarchically structured system. Energy management utilizes machine learning techniques including decision tree and SVM to maximize prosumers' profit. Safe AI for energy predicts failures of energy production facilities, proposes strategy for fast and efficient recovery from disasters, and provides management guidelines for robust energy supply.

Faculty

NAME	EDUCATION	E-MAIL	PHONE
Kang, Jiyeon Associate Professor	**Columbia University** Ph.D. in Mechanical Engineering	jkangrobot@gist.ac.kr	+82-62-715-5334
Kim, Kang Il Associate Professor	**Seoul National University** Ph.D. in Computer Scienceand Engineering	kikim01@gist.ac.kr	+82-62-715-2260
Kim, Kyung-Joong Professor	**Yonsei University** Ph.D. in Computer Science	kjkim@gist.ac.kr	+82-62-715-5345
Kim, Mansu Assistant Professor	**Sungkyunkwan University** Ph.D. in Electronic and Electrical Engineering	mansu.kim@gist.ac.kr	+82-62-715-6390
Kim, Sundong Assistant Professor	**KAIST** Ph.D. in Knowledge Service Engineering	sundong@gist.ac.kr	+82-62-715-6387
Kim, Seung Jun Professor	**GIST** Ph.D. in Mechatronics	seungjun@gist.ac.kr	+82-62-715-5331
Kim, Ue-Hwan Assistant Professor	**KAIST** Ph.D. in Electrical Engineering	uehwan@gist.ac.kr	+82-62-715-6384
Kim, Jongwon Professor	**Seoul National University** Ph.D. in Control & Instrumentation Eng	jongwon@gist.ac.kr	+82-62-715-2219
Moon, Bochang Associate Professor	**KAIST** Ph.D. in Computer Science	bmoon@gist.ac.kr	+82-62-715-5341

NAME	EDUCATION	E-MAIL	PHONE
Park, Gunhyuk Assistant Professor	**POSTECH** Ph.D. in Computer Scienceand Engineering	maharaga@gist.ac.kr	+82-62-715-2261
Ahn, Chang Wook Professor	**GIST** Ph.D. in Information & Communication Eng.	cwan@gist.ac.kr	+82-62-715-2661
Yoon, Jung Won Professor	**GIST** Ph.D. in Mechatronics	jyoon@gist.ac.kr	+82-62-715-5332
Lee, Kyoobin Professor	**KAIST** Ph.D. in Mechanical Engineering	kyoobinlee@gist.ac.kr	+82-62-715-5333
Lee, Yong-Gu Professor	**Seoul National University** Ph.D. in Mechanical Design	lygu@gist.ac.kr	+82-62-715-2396
Lee, Hyunju Professor	**Univ. of Southern California** Ph.D. in Computer Science	hyunjulee@gist.ac.kr	+82-62-715-2213
Jun, Sung Chan Professor	**KAIST** Ph.D. in Applied Mathematics	scjun@gist.ac.kr	+82-62-715-2216
Hong, Jin Hyuk Associate Professor	**Yonsei University** Ph.D. in Computer Science	jh7.hong@gist.ac.kr	+82-62-715-5343

Labs, Centers

AI-based Wearable Robotics Lab
Ph.D. Kang, Jiyeon https://www.awearlab.com/

Intelligence Representation and Reasoning Laboratory
Ph.D. Kim, Kang Il https://irrlab.github.io/

Cognition and Intelligence Lab
Ph.D. Kim, Kyung-Joong https://cilab.gist.ac.kr/hp/

Artificial Intelligence on Medical application Laboratory
Ph.D. Kim, Mansu https://www.aimed-lab.com/

Data Science Laboratory
Ph.D. Kim, Sundong https://sundong.kim/

Human-Centered Intelligent Systems Lab
Ph.D. Kim, Seung Jun https://sites.google.com/view/gist-hcis-lab

Autonomous Computing Systems Laboratory
Ph.D. Kim, Ue-Hwan https://uehwan.github.io/

Networked Intelligence Laboratory
Ph.D. Kim, Jongwon https://netai.smartx.kr/

Computer Graphics Lab
Ph.D. Moon, Bochang https://cglab.gist.ac.kr/index.html

Haptic Assistive Media Laboratory
Ph.D. Park, Gunhyuk https://sites.google.com/view/gist-hamlab

Meta-Evolutionary Machine Intelligence (MEMI) Laboratory
Ph.D. Ahn, Chang Wook https://sites.google.com/view/gist-memi/

Intelligent Medical Robotics Lab
Ph.D. Yoon, Jung Won https://iit.gist.ac.kr/medrobotics/index.do

Artificial Intelligence Lab
Ph.D. Lee, Kyoobin https://sites.google.com/view/gistailab

Autonomous Driving Laboratory
Ph.D. Lee, Yong-Gu https://me.gist.ac.kr/nsl/index.do

Data Mining & Computational Biology Laboratory
Ph.D. Lee, Hyunju https://combio.gist.ac.kr/combio/index.do

BioComputing Laboratory
Ph.D. Jun, Sung Chan https://biocomput.gist.ac.kr/biocomput/

Soft Computing & Interaction Lab
Ph.D. Hong, Jin Hyuk https://iit.gist.ac.kr/sci/index.do

Student Interviews

Name **Ananda Phan Iman (Iman Ananda Phan)**
Nationality **Indonesia**
Program **M.S/Ph.D. Integrated Program**

How long have you been studying at GIST?

I have been studying at GIST for 4 years.

What made you choose to study at GIST?

I decided to study at GIST primarily because of the presence of my Professor, whose research aligned perfectly with my personal research interest. On top of that, GIST is well-known for having a number of distinguished professors and my professor is one of them.

What are the best things about GIST?

The research environment and support are the best things about GIST.

Are you satisfied with the support you receive from GIST?

Yes, GIST provides great support towards the students. GIST always has something to offer if we want to learn and improve ourselves. Besides of that, GIST's Section of International Relations is always ready to assist and guide international student towards live in Korea.

What are your plans in terms of future studies and/or career after you complete your time at GIST?

After completing my study, I plan to continue researching AI Music topic. I would consider pursuing a post-doctoral position if the opportunity arises. However, I remain open to other opportunities that may come ahead, as I am not certain on what does the future holds.

What advice would you give to new applicants hoping to enter a program at GIST?

To all new applicants who wants to join GIST, find something that interests you and let it be the fuel for your research journey. Of course, GIST is undoubtedly one of the best university you can consider for your graduate studies.

Graduate School of

AI Policy and Strategy

+82-62-715-6592 aix@gist.ac.kr https://aix.gist.ac.kr

Graduate School of AI Policy and Strategy

MISSION

Aims to develop leaders and experts in AI policy and Strategy.

Our mission is to harness the power of AI technology to address critical challenges in poilcy, education, humanities, medicine, entrepreneurship, and other fields(AI+X).
We are committed to creating innovative solutions that drive societal progress and enhance human well-being through interdisciplinary convergence.

VISION

Human-centric

Develop AI technologies that prioritize human values, inclusivity, and accessibility, ensuring benefits for all

Ethical-decision

Lead ethical AI development by embedding fairness, transparency, accountability, and privacy

Shaping a Better Futrure with Human-Centric AI

Leadership-innovation

Foster global leaders who leverage AI creatively and responsibly to address and solve societal challenges

Problem-solving

Intergrate AI and metacognitive strategies to resolve complex societal challenges through policy innovation and interdisciplinary collaboration

Faculty

NAME	EDUCATION	E-MAIL	PHONE
Joon Ha Kim Professor	**University of California** Ph.D. in Chemical and Biochemical Engineering	joonkim@gist.ac.kr	+82-62-715-6590
Yongju Lee Professor	**Seoul National University** Ph.D. in Philosophy	lyj@gist.ac.kr	+82-62-715-3626
Duk-Jo Kong Assistant Professor	**GIST** Ph.D. in Electrical Engineering and Computer Science	dukjokong@gist.ac.kr	+82-62-715-2934
Kibae Kim Assistant Professor	**Seoul National University** Ph.D. in Technology Management Economics and Policy	kibaekim@gist.ac.kr	+82-62-715-6600
Dohyeon Park Assistant Professor	**Seoul National University** Ph.D. in Law	gray@gist.ac.kr	+82-62-715-6393

Labs

Human-AI Meta-Cognition Lab.
Joon Ha Kim, Ph. D. & Yong Ju Lee, Ph. D. http://haimc.kr/wp_2ds/01_01.html

IMPACT Lab.
Duk-Jo Kong, Ph.D. https://impact.gist.ac.kr/team/professor.php

AI-Eco Lab.
Ki Bae Kim, Ph. D. https://aieco-lab.github.io/

Law and Policy Lab.
Do Hyum Park, Ph. D. https://sites.google.com/view/law-and-policy-lab/members

Student Interviews

Name **Ji Won Lee**
Nationality **Republic of Korea**
Program **M.S.**

How long have you been studying at GIST?

I have been studying at GIST for 3 months and have just completed my first semester.

What made you choose to study at GIST?

I chose GIST because of my strong interest in AI-based decision-making systems, and I found that my current advisor's research aligns perfectly with my goals. GIST's excellent academic environment and my professor's expertise made it the ideal place to pursue my studies.

What are the best things about GIST?

Firstly, GIST provides an excellent research environment where students can fully concentrate on their academic work without unnecessary distractions. It's a place designed to support deep, focused study and exploration.

Secondly, the generous scholarship system greatly reduces financial concerns, enabling students to focus on their research and personal growth.

Last but not least, GIST has a strong foundation in science and engineering, which makes it an ideal setting for interdisciplinary research. This enables students to explore innovative ideas at the intersection of multiple fields.

Are you satisfied with the support you receive from GIST?

Yes, I am delighted. GIST provides excellent academic and administrative support, allowing students to fully concentrate on their research and studies.

What are your plans in terms of future studies and/or career after you complete your time at GIST?

Although my plans are not yet finalized, I am considering pursuing a Ph.D. After that, I hope to start a business based on the knowledge and research I am currently working on.

What advice would you give to new applicants hoping to enter a program at GIST?

Don't hesitate—just go for it. GIST has a diverse community of international students and offers courses designed specifically for them. Most major courses are conducted in English. Studying at GIST will be a rewarding experience both academically and personally.

Degree programs Information

Department of Electrical Engineering and Computer Science
https://eecs.gist.ac.kr/

Department of Semiconductor Engineering
https://semi.gist.ac.kr/semi/

Department of Material Science and Engineering
http://mse.gist.ac.kr/mseeng/index.do

Department of Mechanical and Robotics Engineering
https://me.gist.ac.kr/meeng/

Department of Environment and Energy Engineering
http://env1.gist.ac.kr/env1eng/index.do

Department of Life Science
https://life.gist.ac.kr/lifeeng/index.do

Department of Physics and Photon Science
https://phys.gist.ac.kr/physeng/index.do

Department of Chemistry
https://chem.gist.ac.kr/chemeng/index.do

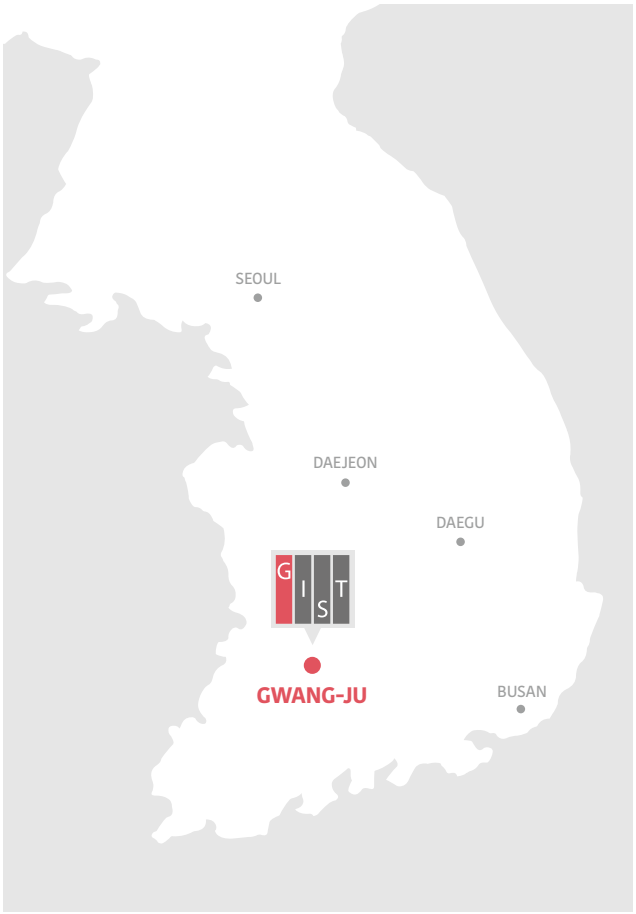
Department of Biomedical Science and Engineering
https://bmse.gist.ac.kr/bmseeng/index.do

Department of AI Convergence
https://ai.gist.ac.kr

Graduate School of AI Policy and Strategy
https://aix.gist.ac.kr

General Information

About Gwangju City



Gwangju City is located in central Honam, which is in the southwest of the Korean Peninsula, the center of Northeast Asia. It borders Damyang County on the northeast, Jangseong County on the north, Hampyeong County on the west, Naju City on the south and Hwasun County on the southeast. Gwangju is the largest metropolitan city that represents the southwestern region.

Gwangju extends from Nam-gu Seungchon-dong (35˚03" north latitude) in the south to Sanpo-myeon, Youngsan River to Buk-gu Yongkang-dong (35˚15" north latitude) in the north. On the east side of Biseonggul, Buk-gu Chunghyo-dong forms the eastern boundary (127˚00" east longitude) of the city. The city extends 34.3 km. from east to west and 23.1 km. from north to south. Cities located on similar latitude lines are Busan and Jinhae in Korea, Tokyo in Japan, Jungsen in China, Algiers in Algeria and Oklahoma City in the U.S. Seoul is located on a similar longitude.

Geographically, Gwangju is situated in the north of Jeollanam-do, centered in Honnam province, serving as a hub of economy, administration, education and culture, including some parts of Jeonbuk. Surrounding Gwangju, there has been development toward Mokpo going through agricultural areas and towards Wando in terms of the bounty of agricultural products, towards Yeosu extending to Gwangyang international container ports and towards Namwon connecting Yeongnam. Likewise, Gwangju is located in the center of the six directions of the Honnam region, providing opportunity for geographical development into the hub of Honnam province.

The city is located in the median latitude maritime temperate climate zone. Its climate is somewhere in-between the west coast climate and the continental climate but is more similar to the west coast climate, which means that the city is warm and has sufficient rainfall. Winter is cold and dry, while summer is hot and humid. It has four distinct seasons. Recently, due to climate change, spring and fall have been shorter, presenting characteristics of a semi-tropical climate.

In terms of accessibility, Gwangju City has excellent transportation infrastructure, such as flights, rails and expressways, which enable a round trip to major cities, including Seoul, Incheon, and Busan within a day. The distance between Gwangju and Seoul is 290.9km (182 miles) which takes 55 minutes by plane, 1.5 hours by KTX (Korean High Speed Rail), and 3.5 hours by car. The distance between Gwangju and Incheon, a gateway to Korea, is 311.4km (194 miles), which takes 4 hours, 10 minutes by car, whereas the distance between Gwangju and Busan is 286.8km (178 miles), which takes 3 hours, 50 minutes by car.

Historically, Gwangju has cultivated a philosophical and cultural environment as a city of spirit, art and taste. It is a city of democracy, human rights and peace which has shown its spirit in many movements, including those in the late Joseon Dynasty, the Gwangju Students Independence Movement during the Japanese occupation of Korea and the May 18th Gwangju Democratic Uprising. In addition, Gwangju is a city of art and is moving forward as a hub of culture in Asia, following the hosting of the Gwangju Biennale and Design Biennale, which are international cultural festivals. Along theses lines, Gwangju has developed as a 21st century Northeast Asian country by nurturing the next generation of strategic industries represented by the LED industry, New Energy industry and the cultural content industry.

GIST Research Institutes

Advanced Photonics Research institute APRI

· Established in 2001, to develop science and technology by focusing on outstanding R&D in photonics and photonic technologies and fostering photonics experts

· Built on the world's best research facilities that includes a 4.2 PW laser system, conduct basic studies on laserplasma interactions, elec trons, par ticle acceleration, x-ray generation, femtosecond laser spectroscopy, and THz optics

Research Insitute for Solar and Sustainable Energies RISE

· Established in 2009 to secure original technologies for new and renewable energies and to promote their commercialization

· Respond to climate change, future energy crisis and environmental problems, carry out R&D activities and convergence study for next-gen smart energy community including next-gen solar cells, energy storage/operation system as essential technologies for the future

Korea Culture Technology Institute KCTI

· Established in 2013

· To conduct research and development activities on combined technologies with cultural industries based on interdisciplinary exchange and convergence among science and technology, design, culture and arts, humanities and social sciences in accordance with article 17-5 (Designation, etc. of Supervising Institute for Research of Cultural Technology) of the Framework Act on the Promotion of Cultural Industries

Integrated Institute of Biomedical Research IIBR

· Established in 2013 under the name of Life Aging Convergence Research Institute, expanded and reorganized into Aging Research Institute in 2015 and renamed as Integrated Institute of Biomedical Research in 2020

· Understanding the nature of life phenomena and promoting human welfare through multidisciplinary convergence research in the field of biomedical science, developing proprietary technologies for prevention/diagnosis and overcoming and promoting quality of life through multidisciplinary convergence technologies

International Environmental Research Institute

IERI

· Established in 2001 as a UN University Institute at GIST

· IERI has conducted multiple joint international environmental studies to foster environmental experts, support the development of technologies to tackle challenges of climate change at home and abroad, and contributed to the improvement of the global environment and human well-being

GIST Institute for Artificial Intelligence

GIAI

· Established in 2017 to serve as a leading research institute in future AI R&D efforts

· GIAI leads global R&D in the era of 4th Industrial Revolution and aims to solve various social issues based on AI research and drive innovative growth of Korea and local communities by successfully completing the 'creation of an AI-based industrial convergence complex (national agenda for local communities)'

GIST Technology Institute

GTI

· Established in 2005, GIST Technology Institute supports IPRs and R&D for commercialization of promising technologies owned by GIST, technology transfer and commercialization, and serves as a hub for startups to contribute to the national economy and industrial development by spreading GIST research outcomes.

Technology Commercialization Center | **GIST Business Incubator** | **Business Support Center**

Center for Relativistic Laser Science

CoReLS

· Established 2012, Center for Relativistic Laser Science (CoReLS) of IBS has studied femtosecond PW laser technologies, relativistic laser-material interaction, physical symptoms transcending in time and space

· In 2016, CoReLS developed a 4PW laser system for the first time in the world, resulting in remarkable progress in research, including high-energy particle acceleration of electrons and photons, and attosecond atom and molecule kinetics

Support Facilities

International and Public Affairs Team IPA

International and Public Affairs Team(IPA) serves both the international and Korean community of GIST students and scholars. Our mandate is to enhance international collaborations between GIST and universities/organization abroad. IPA also promotes mutual understanding among students and scholars of differing cultural backgrounds, and values. The mission of IPA is to create an international atmosphere for Korean students and assist international students with successful academic and cultural experience at GIST.

Our goal is to develop GIST into a truly international campus where English is the official language for everyone. We welcome all Korean, international students, visiting scholars, faculty and researchers. We look forward to serving you and hope your experience at GIST is valuable and productive.

The current programs and services include :

- International student advising services : New student orientation, Alien registration, Immigration, Health insurance etc.
- Cultural Functions: Annual Culture Night
- GIST Global Intern Program (GIP)
- GIST promotion materials: Brochures, Leaflets, GIST Newsletter, Weekly News, etc.
- International collaborations and MOU

Language Education Center

Language Education Center was instituted in March 2015, when the former English Education Center expanded by integrating the Korean Program, in order to consolidate language education and related services for both Korean and international, undergraduate and graduate students across the GIST campus.

Through the Language Education Center, we provide both English and Korean language courses according to students' needs and skills levels. Our English courses help students learn English as a formidable tool for expanding the limits of their knowledge and thinking. We envision a campus where English is no longer an obstacle for students, where students feel empowered and emboldened by their abilities in English, and where they can use English as a springboard for their continued academic and personal success. The Korean courses are an important component of the Language Education Center, serving the international students and members of GIST. The Korean courses provide international students with language education that is relevant to their double needs to function in their academic activities and adjust to Korean culture at large.

The purpose of Language Education Center is to provide all GIST students with the best learning environment to help achieve GIST's vision for higher education in science and engineering. Through our staff of dedicated and experienced teachers, we provide courses and special programs that allow students to develop and grow academically, while also offering individual opportunities for self-reflection and discussion via our Clinic services.

The current programs and services include :

English Courses

[Graduate]

- **English 1**
  - Introduction to Academic Communication (Required)
- **English 2**
  - Research Writing in Science and Engineering (Required)
  - Academic Presentation (Required)

[Undergraduate]

- **English 1**
  - Academic English (Required)
  - Practical English Discourse (Elective)
  - Research Reading in English (Elective)
- **English 2**
  - Introduction to Academic Writing in Science and Engineering (Required)
  - Debate and Argumentation for Scientists (Elective)
  - Research Ethics: R&D(Reading & Discussion) (Elective)
  - Creative Expression in English (Elective)
  - Journalism and News Reporting in the Digital Age (Elective)
- **English 3**
  - Undergraduate Research Writing in Science and Engineering (Elective)

Korean Courses

[Undergraduate Program]

- Undergraduate students are required to complete all of the following three Korean language courses:

- **Basic Korean**
- **Beginner Korean 1**
- **Beginner Korean 2**

[Master's Program]

- Students are required to take Basic Korean.

[Ph.D. / Integrated Program]

- Students are required to complete both Basic Korean and Beginner Korean 1.

- **Beginner Korean II (Elective)**
- **Intermerdiate Korean (Elective)**
- **Practical Korean Vocabulary (Elective)**
- **Understanding Korean Culture (Elective)**

Others

- **English Clinic** free one-on-one English practice by appointment
- **English Workshops** skills-building workshops on practical topics
- **Korean Clinic** free one-on-one Korean practice by appointment
- **GIST College Camp for the Incoming Freshmen**
- **Special lecture series in research writing and publication in science and engineering (for graduate/on demand)**

Central Library & LG Library

Central Library & LG Library

GIST has two modern library buildings. The vast selection or resources includes books, journals (electronic and hard copy), DVD titles, CD-ROM titles, and other materials. The GIST online library enables you to conduct a keyword search of all types of library materials through the Internet. Through this service, you can easily access the information from 29,400,000 articles issued from over 36,000 journal titles. After you view information in a specific journal, you may send a full text request online. The full texts of any academic periodicals not available at GIST can be obtained through the interlibrary copy services, which includes the 160 major Korean higher educational institutes in the area of science and technology, and the British Library Document Supply Centre. GIST is the first to develop an updated delivery system for journal contents, resource sharing system, and library ASP (Application Service Provider) system, and takes a leading role in providing researchers studying the newest fields with the best information service.


Oryong Hall

Oryong Hall

Oryong Hall is a four-story building equipped with sophisticated facilities and equipment to hold various events such as lectures, seminars and workshops. Main facilities include an auditorium (518 seats), multipurpose hall (180 seats), 9 lecture rooms, 5 conference rooms and restaurant.

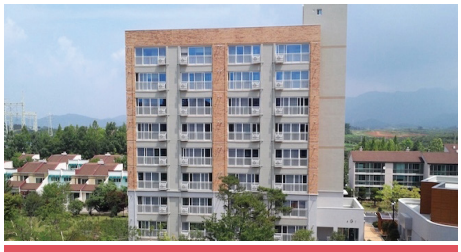

Student Union Bldg

Student Societies and Associations

There are more than 20 student societies and associations, including art, music, sports, science, social and religious groups, which create a dynamic and enriching campus culture harmonizing science and art.

Sports and Welfare facilities

There is a broad range of facilities and services available including 1 gymnasium, 7 tennis courts, 1 outdoor sports ground, a 426-seat auditorium, weight room and on-campus restaurant, cafeteria and equipped kitchen only for international students.


Married Student Apartments

Housing

International Hall

International Hall is a nine-story dormitory building that is used for residence by international scientists. Joint public facilities include a gym, internet room, self-service laundry room, rest area and maintenance office. Eligible occupants shall be internationals involved in the area of education and research at GIST. There are three types of apartments : one-bedroom apartments, two-bedroom apartments and three-bedroom apartments.

Married Student Apartments

There is housing accommodation on campus for married students(M.S. or Ph.D.). Married students are eligible to apply for a 2-bedoom apartment.


Domitory

Dormitory

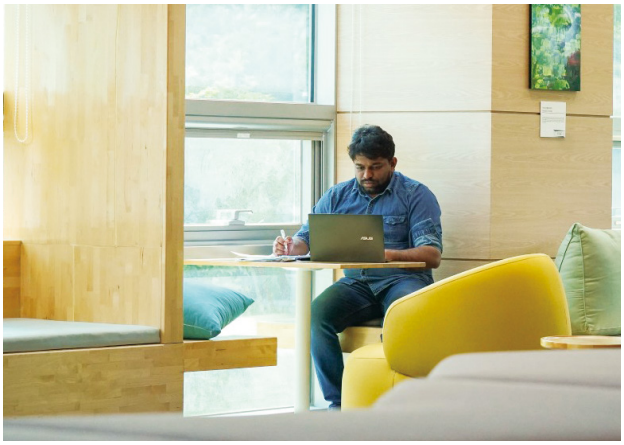
The institute provides all students with on-campus dormitory housing free with reasonable fees. The fees will be deducted from your monthly stipends. Each room accommodates two students, with rooms for male and female students arranged in separate wings. The dormitory facilities include cooking facilities for international students, shower rooms and TV lounges.

Global Intern Program

About GIP

What is GIP

The Global Intern Program offers students from countries around the world an opportunity to stay at GIST for a short period (typically eight weeks over summer) to receive training and carry out research.



Who can apply for GIP

Eligibility

The Global Intern Program is eligible to international undergraduate students who are currently seniors or to international students enrolled in a master's program. Ph.D. applicants are not eligible.

GIP Research Field

The Global Intern Program is designed to provide knowledge and skills in the following areas:

- Electrical Engineering and Computer Science
- AI Convergence
- Semiconductor Engineering
- Physics and Photon Science
- Chemistry
- Materials Science and Engineering
- Mechanical and Robotics Engineering
- Environment and Energy Engineering
- Life Sciences
- Biomedical Science and Engineering

Participants of the Program will be assigned to specific laboratories and receive their research training under the supervision of the professors in charge of the laboratories.

More information about the participating laboratories can be found from the GIST IPA website. (https://ipa.gist.ac.kr/)

GIP Benefits

- One-way Airfare
- Dormitory Accommodation
- Korean Language Class
- Cultural Class
- Special Lectures
- Stipend

How to Apply

Complete online Application

· Go to https://ipa.gist.ac.kr
· Create an account with your email address
· Fill in online application form

* Applicants should indicate two preferred laboratories in the application form

Upload Required Documents

· Original (Official)
Degree Certificates (Proof of Enrollment and/or Graduate Certificate)
· Original (Official) Transcripts; All in English
· Letter of Recommendation
· English Language Proficiency Test Result for Non-native speakers of English

GIP TImeline

* The schedule is tentative

February – early March	Application Period
Late April	Selection Notice
Mid June – Mid August (8 Weeks)	GIP Program

GIP Committee / International and Public Affairs Team IPA

3F Administration Building, Gwangju Institute of Science and Technology (GIST)
123 Cheomdangwagi-ro, Buk-gu, Gwangju 61005, Republic of Korea

+82-62-715-6254 +82-62-715-2029
gip@gist.ac.kr https://ipa.gist.ac.kr | https://www.gist.ac.kr

Information is accurate at the time of printing in June. 2024

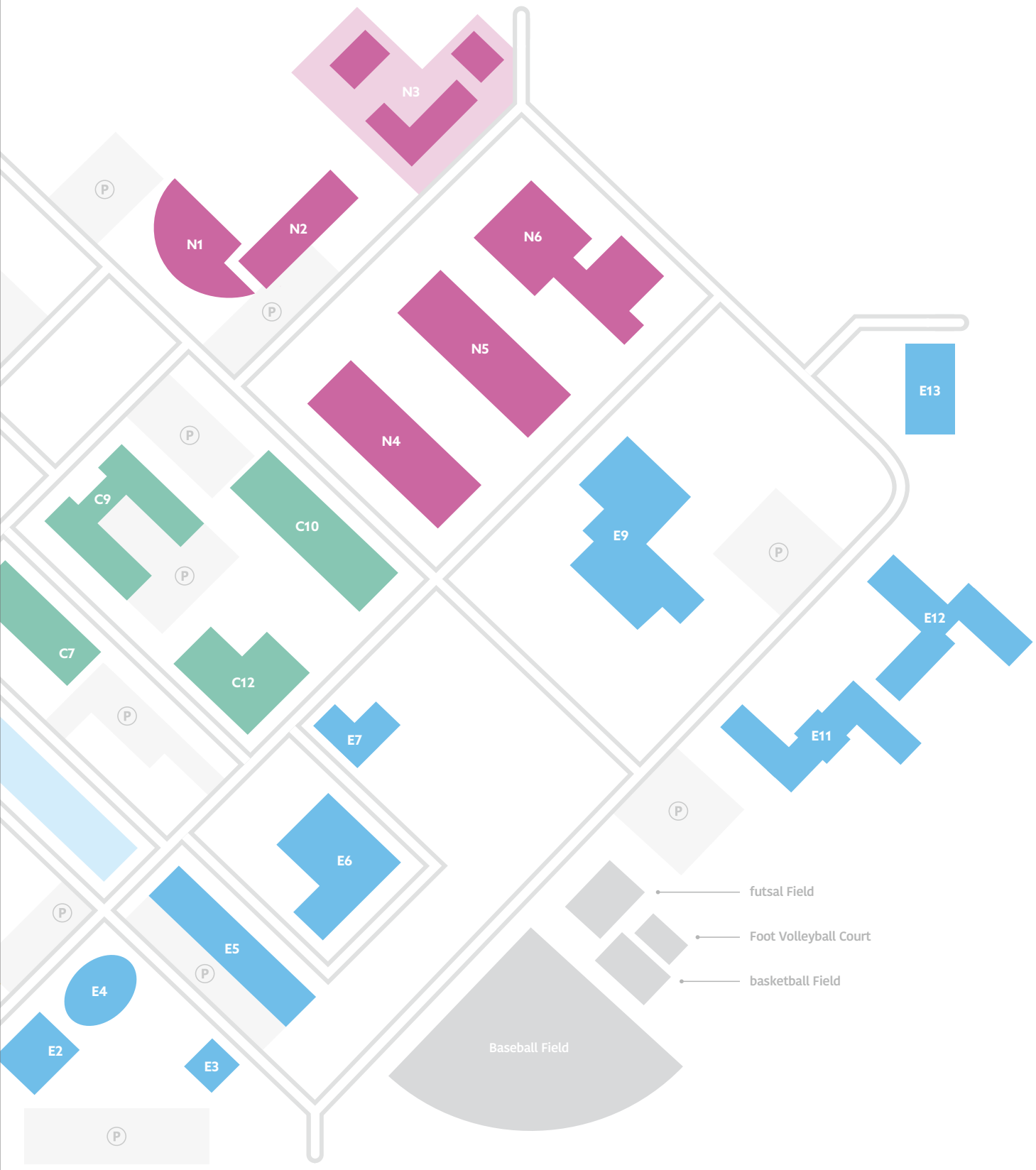
GIST Culture Night

GIST Culture Night is an annual event that brings the GIST community closer together by sharing the diversity that is found on our campus. GIST international students and their families celebrate their unique cultures with performances, foods, and exhibition booths that highlight traditions and customs from their home countries. More than 400 people from GIST and the local community attend GIST Culture Night every year to experience a little bit of the sights and tastes from the rest of the world.

GIST Campus Map

W1 Oryong Hall
W2 Gymnasium
W3 International Hall
W4 Graduate School Dormitory
W5 Married Student Apartment
W6 Student Union Building1
W7 Graduate School Dormitory
W9 Faculty Housing
W10 President's Residence
W11 Facility Maintenance Building
W12 Business Incubator B
W13 Central Storage

S1 Mechanical and Robotics Engineering Building
S2 Administration Building
S3 Life Sciences Building
S4 Kumho Research Building
S5 Materials Science & Engineering Building
S6 Earth Sciences and Environmental Engineering Building
S7 GIST Technology Institute Center for Creative Economy and Innovation, Gwangju
S8 Business Incubator A



E4 KEMCO Energy Center
E5 Advanced Photonics Research Institute [APRI]
E6 Ultrashort Quantum Beam Facility
E7 International Collaboration Building
E9 Student Union Building 2
E11 GIST College Dormitory A
E12 GIST College Dormitory B
E13 Power Plant

N1 Central Library
N2 LG Library Energy Valley Institute of Technology
N3 Faculty Apartment
N4 GIST College Building A
N5 GIST College Building B
N6 GIST College Building C

C1/C2/C3 Electrical Engineering and Computer Science Building
C4 Kumho Hall
C7 Samsung Environmental Science & Research Building
C9 Dasan Building
C10 Renewable Energy Research Building[RISE]

More Information

Admissions Information
https://www.gist.ac.kr/iadm/

Online application
https://service.gist.ac.kr/admission/graduate/foreigner

SIR (Section of International Relations)
http://ipa.gist.ac.kr

https://www.gist.ac.kr/en/main.html

https://blog.naver.com/bestgista

https://www.youtube.com/GIST_YOUTUBE

https://www.instagram.com/GIST.SNS

https://www.facebook.com/GIST.SNS

www.gist.ac.kr