Fall 2016 Application Guide for the Prospective Students of DGIST Graduate School

The World– leading Convergence University

Visualize your dream of being a creative global leader. Right here at DGIST, The center for convergence science and technology of 21C.



Emerging Materials Science

Pursuing the state-of-the-art science on new materials via interdisciplinary research

Overview

Emerging materials science is a cross-disciplinary field of study, designed from the convergence of the fundamental research on material properties and the applied science and engineering on the material components. The Research and development in the fields of advanced new materials needed by modern high-tech industries, nano & bio materials, multifunctional and extreme environments applications, are rapidly developing in recent years and it is now positioned as one of the major academic fields of study.

Department of Emerging Materials Science in DGIST pursues the state-of-the-art research on new advanced materials science based on multidisciplinary approaches. Emerging materials science program envisions to culture future scientists and engineers in the materials related fields, playing the leading roles in both academia and industries, with creative problem solving skills and research capabilities.

Vision

- Frontier research in the field of materials science with the aim to make contributions to humanity.
- Creative researchers with convergence scientific minds based on broad disciplines of science.
- Development and education of globalized research capacity in Korea and setting the collaboration networks with global academic leaders.

Research and Education

- Make progress in our understanding on diverse material systems through the modern experimental and theoretical studies and stay at the forefront of the material research.
- Provide the frame for the multidisciplinary education of the next generation with the contemporary convergence research.
- Research program at world-leading groups to promote international and multidisciplinary collaboration in materials science
- Annual student-led workshop for stimulating discussion and collaboration among students in different fields

Specialized Research Fields

 Research and development of new materials and phenomena based on understanding of quantum mechanical correlations between atoms.

- Understanding and applications of nano- and bio-materials with the focus on emerging new properties due to the nanoscale size.
- Exploration of new functional properties via the theoretical studies of electronic and dynamic structure of materials.

Faculty

- Prof. Sung-Chul Shin scshin@dgist.ac.kr
- Prof. Chil-Min Kim chmkim@dgist.ac.kr
 Micro Laser Laboratory
- Prof. Yong Seung Kwon yskwon@dgist.ac.kr
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 Biomimetic Materials Laboratory
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- http://nom.dgist.ac.kr – **Prof. Jungpil Seo** jseo@dgist.ac.kr
- : Nanospm Lab http://nanospm.dgist.ac.kr
- Prof. Joongoo Kang joongoo.kang@dgist.ac.kr
 : Computational Materials Design Laboratory

Adjoint Professor

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Adjunct Professor

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Advisory Faculty Members

- Prof. Peter Fulde(Asia Pacific Center for Theoretical Physics, President)
- Prof. Stuart Parkin(IBM Fellow)
- Prof. Hideo Hosono(Tokyo Institute of Technology)
- Prof. Sung Hwan Kim(Univ. of Utah)
 Prof. Ji Soon Lim(Seoul National Univ)

Information & Communication Engineering

Embracing the next generation through convergence of information and communication

Overview

Information & Communication, which is considered as a core of the future knowledge society, takes a key role in the convergence with Bio Technology (BT), Culture Technology (CT), Energy Technology (ET), Nano Technology (NT), Robot Technology (RT), etc. The department fosters information and communication professionals equipped with 1) creativity for seeking new research and development directions in the advancement of our future industry, 2) practicality for solving real world problems, 3) globalization for embracing international perspectives, and 4) social entrepreneurship for generating added value in existing or novel applications

Vision

- Becoming the department of excellence with international academic recognition
- Advancing core technologies needed for the development of future industries
- Educating professionals equipped with both the ability of global research & development and the sense of technology management
- Opening up new fields through information and communication convergence with other fields of study

Research and Education Focus

- Select specialized major research areas and support them intensively
- Cluster the related specialized major research areas as centers
- Conduct convergence research between each field of information and communication and other fields of study

Specialized Research Fields

Cyber Physical Systems

- Real-time and embedded systems
- Wireless sensor networks
- Control and modeling
- Big data systems and big data mining
- Biomedical Systems
- Biosignal sensing system and biomimic devices
- Smart healthcare
- Bioinformatics and neuroinformatics
- Biomedical communications and signal processing
- Brain-machine interface/Brain-computer interface(BMI/BCI)
- Biomedical Imaging and Systems

Smart Connected Systems

- Internet of Everything (IoE)
- Nano communication devices
- Resilient networks for cyber-physical systems
- Satellite communications networks
- Cross-layer communication and signal processing

Convergence with Other Majors

- Convergence with Emerging Materials Science : Research on electronic devices based on new materials
- Convergence with Robotics Engineering : CPS and brain mapping based rehabilitation robot technologies, Machine-learning based brain machine interface, Sensor and actuator wireless interface
- Convergence with Energy Systems Engineering : Energy IT convergence technologies including smart grid and renewable energy
- Convergence with Brain & Cognitive Sciences : Medical imaging, Biomedical signal processing, Nano devices with possible application to human body, Database and data mining for medical applications, Biomedical wireless communications and network
- Convergence with New Biology : Next Generation Sequencing (NGS) genome data analysis, Large-scale protein mass spectrum data analysis

Faculty

- Prof. Wook-Hyun Kwon http://whkwon.dgist.ac.kr
- Prof. Min-Soo Kim http://infolab.dgist.ac.kr/~mskim
- Prof. Taesup Moon http://mlds.dgist.ac.kr
- Prof. Kyung-Joon Park http://csi.dgist.ac.kr
- Prof. Sang Hyuk Son http://rtcps.dgist.ac.kr/son
- Prof. Yongsoon Eun http://dsc.dgist.ac.kr
 Prof. Jae-Eun Jang http://nanotech.dgist.ac.kr/
- Prof. Minkyu Je
- http://sites.google.com/site/dgistimpactlab
- Prof. Ji-Woong Choi http://comm.dgist.ac.kr
- Prof. Jihwan Choi http://nc.dgist.ac.kr
- Prof. Jae Youn Hwang
- https://sites.google.com/site/dgistmbislab/ Research Professor
- Prof. Haengju Lee(PhD. Columbia University, IE)

Visiting Chair Professor

- Prof. Kang G. Shin(University of Michigan, Ann Arbor)
- Prof. John A. Stankovic(University of Virginia)

- Prof. Gehan Amaratunga(University of Cambridge)

- Prof. Insup Lee(University of Pennsylvania)

- Prof. Stephen P. Boyd(Stanford University)

Advisory Faculty Members

Robotics Engineering

A Mecca of core-technologies in medical robotics the aspiration of Robotics Engineering Major of DGIST

Overview

- In the medical field, robots have performed numerous missions instead of human being to improve the quality of life as well as human health and welfare.
- In order to become a leader of next decade. advanced countries have investigated and spurred on the robot technology as a new growth engine.
- Since the research areas of medical robots have rapidly grown with the infinite possibilities, people who have experienced skills and challenging spirit can dedicate their effort to research, and prepare for the upcoming new future.

Vision

- To attain global leadership roles in the research and education of medical robotics area.
- To train experts in robotics with outstanding research capability and globalized mind.
- To establish education system to promote interdisciplinary studies and creative learning, and research environments to accommodate convergent research activities.

Research and Education Focus

- Medical robotics to combine robotics engineering with medical applications.
- Major research areas : Surgical Robot, Rehabilitation Robot, Life Support Robot, Robot Design & Service Robot, and Bio Micro-Nano Robots/BRI
- Converged robotics engineering through interdisciplinary education, system integration education, team based working process, and project-based practical learning process.

Specialized Research Fields

Robotics Engineering Department conducts robotics researches to develop creative fusion technologies by converging conventional engineering subjects(Mechanical, Electrical, Electronics Engineering, Mechatronics, etc) with advanced high technologies such as Biotechnology(BT), Information Technology(IT) and Micro & Nanotechnology(MT/NT). With this fusion technologies, the department will focus on the biomedical robotics fundamental researches on Robot Mechanism Analysis and Design, Precision Actuator and Sensor, Biometric sensing(bio-sensors), Control System, Biomodeling, Medical Simulation, Optical System Design, Biomedical Imaging, and Micro/ Nano Systems Design & Fabrication.

Surgical Robot : Advanced robotic technologies that provide advanced eyes and hands for surgeons to assist more accurate and safe surgery through the image-guided minimally invasive surgery. Surgical simulation based on virtual and augmented reality technologies helps surgeons to practice surgical skills preoperatively.

- Rehabilitation Robot and Life Support Robot : Rehabilitation robots that help recover or assist the motor/cognitive functions of the handicapped and impaired persons. Life support robots such as welfare assistant and home care robots that improve quality of life of the beneficiary.
- Bio Micro-Nano Robots/BRI : Exploration, diagnosis and drug delivery for targeted areas; treatment of the brain and human body through the use of micro/nano robots and artificial sensing systems/control of robots, artificial prosthesis and external devices using BRI
- Robot Design & Service Robot : Robot design and optimization for medical and other advanced robotic applications based on advanced robot mechanism, sensors, actuators, control, machine vision, motion planning, navigation, etc., and innovative service robots to improve the quality of human life

Convergence with Other Majors

- Although DGIST is still at its growing stage, the Robotics Engineering Department will conduct an international education-research program called "Global Alliance Program" that collaborates with world leading universities
- The department will invite world renowned professors to give lectures, co-supervise student thesis, and conduct cooperative research
- The department will promote exchange of visits at the level of professor / research staff, and students' internship programs in order to encourage their international experience.

Faculty

- Prof. Jaesung Hong http://sr.dgist.ac.kr
- Prof. Pyunghun Chang http://logos.dgist.ac.kr
- Prof. Hongsoo Choi http://mems.dgist.ac.kr
- Prof. Sangjun Moon http://cybernetics.dgist.ac.kr - Prof. Jonghyun Kim http://rehab.dgist.ac.kr
- Prof. Cheol Song http://smart.dgist.ac.kr - Prof. Sehoon Oh http://control.dgist.ac.kr
- **Adjunct Professor**
- Prof. Bradley Nelson(ETH Zürich) http://www.iris.ethz.ch/msrl/people/brad n.php

Adjoint Professor

Prof. Jeon II Moon jimoon@dgist.ac.kr

Research Professor

- Prof. Russell H. Taylor(Johns Hopkins University) http://cs.jhu.edu/~rht

Advisory Faculty Members

- Prof. Sergej Fatikow(University of Oldenburg) - Prof. Neville Hogan(MIT)
- Prof. Byung Ju Yi(Hanyang University)
- Prof. Sung Ho Jang (College of Medicine, Yeungnam Univ.)

Energy Systems Engineering

Research and Development of environmentally friendly renewable energy sources and the devices

Overview

Securing sustainable and environmentally friendly energy resources is an important task to accomplish human survival in future. Frontier science and technology are extensively searching for such power sources as well as systems utilizing the renewable energies. With this wide range of social movement it is required to shift the conventional education paradigm innovatively to have students handle new forms of the energies. The Department of Energy Systems Engineering in DGIST aims at educating graduate students to contribute to the new generation of renewable energies with creative mind.

Vision

Education for creative and convergent R&D capabilities for future energies

Research and Education Focus

- Creation of international leaders for the convergence energy devices through closely interconnected DGIST's interdisciplinary system
- International exchange and team projects with global top Institutes
- Solution searching education and researches experiences to technical challenges

Specialized Research Fields

- Key materials and system design for the advanced hydrogen and bio-fuel cells
- Production and storage of hydrogen and practical applications of renewable energy systems
- Core-material and fabrication technology for the next generation photovoltaic cells
- Photocatalytic recycle of the waste products such as CO₂ and waste water
- New materials for high energy Li-ion batteries
- Post-Li batteries including multivalent(Mg, Zn) ion, metal-air batteries

Convergence with Other Majors

- Information and Communication Engineering : Electricity storage devices and sensor network system for smart grid to improve the efficiency of renewable energies
- Robotics Engineering : Small batteries for micro-robots for medical application, and large-batteries for human care/ industrial robots
- Brain/biology : Bio-energy systems for the treatment of brain signals and processing, and biocompatible power sources

Faculty

- Prof. Seung-Tae Hong http://sthong.dgist.ac.kr
- Prof. Jong-Sung Yu http://jsyu.dgist.ac.kr
- Prof. Hochun Lee http://dukelee.dgist.ac.kr
- Prof. Youngu Lee http://opel.dgist.ac.kr
- Prof. Sangaraju Shanmugam http://sangarajus.dgist.ac.kr
- Prof. Jong-Soo Lee http://jslee.dgist.ac.kr
- Prof. Su-II In http://insuil.dgist.ac.kr
- Prof. Kang Taek Lee http://ktlee.dgist.ac.kr/

- (Ecole Polytechnique Federale de Lausanne)

Chair Professor

- Prof. Hasuck Kim http://hasuckim.dgist.ac.kr

Distinguished Professor

- Prof. John Byrne(University of Delaware)
- Advisory Faculty Members - Prof. Michael Graetzel

 - Prof. Jerald A. Caton(Texas A&M University)
 - Prof. Masahiro Watanabe(University of Yamanashi)

Brain & Cognitive Sciences

Leading the world in brain science through convergent education and research

Overview

The brain is the last great frontier in the exciting field of research. Brain & Cognitive Sciences is the study of the fundamental principles of brain structure and function. The integration and convergence of Brain & Cognitive Sciences with others disciplines is rapidly expanding. With interdisciplinary approaches, Brain & Cognitive Sciences research will contribute to not only the field of science but also humanities, social science, and industrial fields.

Vision

We aim to create a world-class research and teaching environment to facilitate brain-science discovery and education, and to achieve the improvement of brain health and human life based on this knowledge. This is accomplished through the training of global practice leaders, technology partnerships, and the establishment of a neuroscience knowledge community

Research and Education Focus

Specialized education for Brain & Cognitive Sciences by performing cutting-edge research on the structure and function of the brain as a common theme without interdisciplinary barriers

Specialized Research Fields

Circadian Rhythm

- · Elucidating the integrative action of molecular clockwork and functional relevance in biological rhythms of the mammalian brain by using a variety of experimental tools including molecular, cellular, anatomical and behavioral approaches
- Deciphering the fundamental principles and physiological significances of biological oscillations including circadian and ultradian rhythms
- · Elucidating the functional link between molecular clockwork and higher brain functions such as mood regulation in a variety of experimental models · Identifying the process of molecular clockworks by
- real-time monitoring of a single neuron's activity

Neurometabolism

- Research aimed at understanding the metabolic mechanisms of neural systems in relation to obesity, hypertension, diabetes and various other metabolic diseases for prevention and treatment.
- · Focus on the metabolic regulation of the etiology of neurometabolic diseases like neurodegenerative disorders on a single molecule/cell level to develop the technology for early diagnosis of diseases. • Observation of minute changes in metabolite levels
- using Metabolome analysis, stem cell/gene therapy and calcium channels for research applicable to therapeutic intervention for prevention and treatment of neurometabolic diseases.
- · Basic research on molecular mechanisms underlying the comorbidity of metabolic disease and the neurological disorders.

Neurodegeneration

- Research area focused on the cellular and molecular mechanisms of neuro-degeneration and programmed cell death of neurons and neural stem cells in neurological disorders.
- · Development of novel disease prediction and diagnosis technologies through the convergence research with BT and IT
- · Research on the basic principles of the central nervous system through the systems level approaches for the study of the mechanisms governing neurodevelopment, differentiation and neurodegeneration.

Sensory System

 Research aimed at understanding the basic principles underlying the structure and functions of the sensory system, including chemical senses

(olfaction, pheromone, & taste) and vision. · Basic research focused on the cellular and molecular mechanisms of chemical senses, pain, pheromone action.

- · Practical researches such as discovery of neuroprotective materials and development of novel disease prediction/diagnosis technologies, new biomimetic sensing technologies and sensory system based neuro-tools through convergence studies with other majors including new biology, robotics and information technology.
- Computational Neuroscience & Biophysics · Based on statistical and computational physics,
 - protein is studied at the level of atoms Uncover the fundamental physico-chemical principles behind the complex life phenomena.
 - Research area includes: Protein thermodynamics and folding kinetics.
 - Protein structure, function and mutagenesis.
 - Protein-protein, protein-DNA interaction.
 - Environmental(pH, denaturant) and PTM effect on protein function
 - Signal communication across cell membrane. - Various kinds of receptor proteins and membrane proteins.
 - Protein aggregation and amyloid fibril formation. Proteins for neuro-degenerative disease.
 - Neuro-Scientific computing.
 - Capturing the simplicity from the complexity via network analysis of complex big data. Nonequilibrium population dynamics on
 - complex network Supercomputing simulation of biomolecules.

Convergence with Other Majors

Brain & Cognitive Sciences can readily converge with other science and technologies like Physics, Chemistry, NT, BT, and IT. The department of Brain & Cognitive Sciences will pursue cooperation with other divisions at DGIST through a project-based learning model.

Faculty

- Prof. Kyungjin Kim http://BBC.dgist.ac.kr
- Prof. Iksoo Chang http://biophysics.dgist.ac.kr
- Prof. Cheil Moon http://home.dgist.ac.kr/cmoon/
- Prof. Seong-Woon Yu http://home.dgist.ac.kr/yusw/ Prof. Eun Kyoung Kim http://home.dgist.ac.kr/ekkim/
- Prof. Jae Hyung Koo http://home.dgist.ac.kr/jkoo001/ Prof. Byung Chang Suh http://home.dgist.ac.kr/bcsuh/
- Prof. Kyu Hyung Kim http://home.dgist.ac.kr/khkim/
- Prof. Sung Bae Lee http://home.dgist.ac.kr/sblee/ Prof. Yong Seok Oh http://neurogenomics.dgist.ac.kr/
- Prof. Hyosang Lee

Adjoint Professor

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KBRI Adjoint Professor

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 - Prof. Hyun-Ho Lim hhlim@kbri.re.kr
 - Prof. Youngshik Choe dallarae@kbri.re.kr
- **Distinguished Chair Professor**
- Prof. Erwin Neher(1991 Nobel Laureate in Physiology or Medicine)
- Prof. Kurt Wüthrich(2002 Nobel Laureate in Chemistry)

New Biology

Creates a next-generation paradigm of knowledge, , technology, and science in the era of the new biology for sustainable humanity

What is New Biology?

DGIST's New Biology goes beyond technological and practical aspects to create new academic trends in biological sciences by establishing a new paradigm in fields such as complex biology and quantum biology, so as to analyze, understand, and explore applications of biological phenomena.

New Biology Culture

- Towards Our Science beyond My Science · Companionship : Introduction of convergence learning from bonding through science culture and education based on mutual respect among members and interdisciplinary cooperation
- Wall-less Operation : Create agora type for establishing borderless education and research culture, and participating convergence research by sharing expertise, intelligence, and facilities
- Boundary-less thinking and Challenge Cultivation of world-class talents and creation of a new paradigm for next-generation biological sciences for the advancement of humanity

Scholarship

- Pahyeon fellowship : The felowship will be given to existing students who performed outstanding research or new applicants for the graduate program.
 - Annual stipend of \$26,000 (*For PhD students)
- DGIST-IBS Fellowship : The DGIST-IBS Cooperative Ph.D Program's goal is the advanced training of new generations of creative and original researchers in the biological sciences
 - Annual stipend of \$21,000 (*For PhD students)

Innovative Features

- Four-year PhD Program
 - Conduct intensive curricula and laboratory practices during the first year. Focus on the research program from the second to fourth years

Innovative Education

- Creativity-oriented education : Students are trained as future leaders who are capable of raising creative questions instead of merely solving given problems and creating knowledge
- Holistic education : Classes are offered on scientific creativity and logic, scientific communication, and the history of scientific discoveries
- Academic advisor : Tailored mentoring is provided throughout and after the Ph.D program

Education Track

Interdisciplinary New Biology (INB) Track places graduate students at the forefront of fundamental convergence biological research and provides access to New Biology's cutting-edge core science and technology and modern biology laboratories.

Translational New Biology (TNB) Track places graduate students at the forefront of application of convergence biological research to biological, biotechnical, and medical fields and provides access to New Biology's collaboration partners (e.g. hospitals, biotechs, etc).

Specialized Research Fields

- Aging Biology : Creation and implementation of new paradigm for the aging process of organisms through multidimensional systems biology.
- Nanobio Imaging : Development of highresolution nanobio imaging devices with excellent dynamic and chemical properties, and the application of these devices to the understanding of biological phenomena in terms of nanomaterial, organelle, cell, and cell network.
- Systems and Complex Biology : Utilization of techniques in processing and analyzing big data information at the complex network level based on bioinformatics and systems biology
- Bio-sustainability Biology : Development of strategies for organisms in response to global environment changes (global warming droughts), advent of the space age, energy depletion, and food shortage, and research for the survival of humanity in extreme conditions and outer space.
- Biochemistry & Biophysics : Research interests of biochemistry and biophysics span across a broad range of topics covering various aspects of structure and function of biological systems. Some specific topics that are addressed include understanding of eukarvotic DNA replication and genomic instability.

Convergence with Other Majors

- Participation in education and research aimed at acquiring groundbreaking technology to contribute to sustainable humanity (food, energy, medicine, environment, etc.) based on matrix-structured interdisciplinary pursuits with other department at DGIST.
- Engagement in convergence research projects across various disciplines including nanobio. convergence, robot systems, and energy.

- Prof. Dae Hee Hwang http://sbm.dgist.ac.kr

- Prof. June M. Kwak http://kwaklab.org/umd

- Prof. Pyung-Ok Lim http://complexbiology.dgist.ac.kr

- Prof. Dae-Won Moon http://dwmoon.dgist.ac.kr

- Prof. Hong Gil Nam http://complexbiology.dgist.ac.kr

- Prof. Hye Ryun Woo http://complexbiology.dgist.ac.kr

(2002 Nobel Laureate in Chemistry, ETH Zürich,

- Prof. Yousin Suh (Albert Einstein College of Medicine

- Prof. Jan Vijg (Albert Einstein College of Medicine

- Prof. William J. Lucas (University of California Davis)

Prof. Gynheung An (Kyung Hee University)

- Prof. Richard N. Zare (Stanford University)

Distinguished Chair Professor

The Scripps Research Institute)

- Prof. Suleyman I. Allakhverdiev

(Russian Academy of Sciences)

Advisory Faculty Members

Prof. Kurt Wüthrich

Adjunct Professor

Faculty

Our excellent MIREBraiN program will lead us to the World-leading **Convergence University**

The Uniqueness of DGIST : the only university which has R&D division as well as academic division

VISION

World-leading **Convergence University**

- Nurturing the global leaders of knowledge creation - Creating future convergence technology

Goal

2nd Stage (2021-2030)

3rd Stage (2031-2040)

Undergraduate **School**

School of Basic Science

Graduate School

Emerging Materials Science

Information and Communication Engineering

Robotics Engineering

Energy Systems Engineering

Brain & Cognitive Sciences

New Biology

Basic and fundamental research

One-Stop R&D Role model of Win-win Cooperation between Academic and R&D divisions

Convergence Research Center for Solar Energy

Convergence Research

Division of IoT and Robotics

Division of Nano and Energy

Convergence Research

Convergence Research

Institute

Convergence Research Center for Wellness

DGIST-LBNL Research Center for Emerging Materials Science

Research Center for Resilient Cyber Physical Systems

Convergence Research Center for Microlaser Technology

Convergence Research Center for Future Automotive Technology

DGIST-ETH Microrobotics Research Center

> Applied research and commercialization of the developed technologies

Strategy

Contribution to the National Excellence through

Contribution to the Competitivene Strengthening of Local Industries

Stablishment of the Excellen Environment for Education and Research

Major field DGIST MIREBraiN program

Emerging Materials

Communication Engineering

DGVISV Win-win Cooperation

The best research infrastructure that raises the global competitiveness of Korean science and technology



Korea Brain Research Institute

serve as hub of national brain research

 DGIST-affiliated and Korea's first government-funded nationa research institute for brain research
 Founded to concentrate national brain research abilities and



IBS-Center for Plant Aging Research

- A national research group that receives research funding(KRW 10 billion) from the Korean government annually
 - Systems understanding on the complex processes of plant senescence and life span



CPS(Cyber Physical System) Global Center

- Research center founded to secure international research excellence through cooperation with world's leading universities in computer science and cyber physical system
- Consortium : DGIST, Univ. of Michigan, Univ. of Virginia, Univ. of Pennsylvania, Carnegie Mellon Univ.



Diagnosis of diseases based on the neurometabolomics and education of researchers to nurture neurometabolism specialists

Convergence Research Center for Olfaction

The approach of 21 Century also known as the era of Brain Science has been encouraged scientists from many disciplines work together to focus on understanding the mechanisms of smell, how the brain and olfactory system work. The center has been established to make a preemptive action for the well-being of the future society through development of converging technologies in the field of olfactory system.

Basic and applied research on anti-aging via aging mechanism identification, diagnosis, prevention, and rehabilitation

Identifying anti-aging molecular marker and regulation

technology for aging-related diseases • Developing age-friendly source technologies for diagnosis, regulation, and therapeutics

Aging Research Center

technology development



Center for Proteome Biophysics

Provoking the convergence among the concept of statistical physics, supercomputing technology, biological/life science, we pursue to uncover the fundamental knowledge for the thermodynamics, kinetics and mutagenesis of protein, DNA, and their complex. We aim to come up with the atomic/molecular mechanisms of the life phenomena.



Center for Core Research Facilities

- Established to provide world-class research support within and outside of DGIST
- 3 key elements : professional staff, customer-oriented operation, and state-of-the-art research facilities
- Facilities : material characterization, device processing, animal tests, bio imaging, super computing, measurements and simulation, machine shop

Office of University-Industry Cooperation

- Various technology business incubation infrastructures and development rooms to support corporations occupied in the Office of University-Industry Cooperation
- Technology/business consultation services with internal and external experts, such as '1 to 1 mentoring program' and 'guardian system'

Fall 2016 Application Guide for the Prospective Students of DGIST Graduate School

Mathematical Contraction Schedule

Classification	Application	Interview
Fall 2016	Apr 21(Thu) ~ May 5(Thu)	May 23(Mon) ~ Jun 1(Wed)

2 Majors and Programs

Majors	Programs	
Emerging Materials Science	M.S, Integrated M.S&Ph.D, Ph.D * Note that you could get an admission for M.S program according to the evaluation results, even if you applied for the Integrated M.S&Ph.D Program.	
Information & Communication Engineering		
Energy Systems Engineering		
Robotics Engineering	M.S, Ph.D	
Brain & Cognitive Sciences	M.S program students in 2 nd semester of study can transfer to Integrated M.S&Ph.D program through a certain process.	
New Biology	Integrated M.S&Ph.D, Ph.D	

Benefits

Classification	Details	
Tuition	Full scholarship for all graduate students	
Stipend for Education and Research	 Ph.D : 13,680,000KRW + α / year M.S. : 7,440,000KRW + α / year 	
International Exchanges	 Opportunity of training in the world's leading class university Opportunity to participate various international conferences 	
Government Research Project	 DGIST Convergence Research Institute and its 7 research centers (DGIST-LBNL Research Center for Emerging Materials Science, Convergence Research Center for Microlaser Technology, DGIST- ETH Microrobotics Research Center, Research Center for Resilien Cyber Physical Systems, Convergence Research Center for Resilien Cyber Physical Systems, Convergence Research Center for Solar Energy, Convergence Research Center for Wellness) Korea Brain Research Institute IBS-Center for Plant Aging Research 	
Dormitory	 Convenient dormitory facilities ※ Dormitory and utility fees will be charged separately 	

* Please visit a website of each department for more detailed information about scholarships.

DGIST Open Lab.

Apr 9(Sat) 11:30 ~ 17:00

DGIST Consilience Hall L29(Auditorium)

Online Submission

(via admission@dgist.ac.kr)

- Free shuttle bus service to DGIST
- Introduction of DGIST & application guidelines, Lab tour, etc.
- Expenses of intercity transportation, Lunch and Gifts will be provided
- The Open Lab is mainly delivered in Korean.
- ※ The Open Lab. schedule is subject to change. For details, please refer to the admissions website.

Graduate Admissions Info. Session in Seoul

- The session schedule and details will be noticed on the admissions website.
- Location : DGIST Seoul Office
- Group meeting with DGIST professors and students(it will be held for 1hr
- Application must be submitted in advance. Otherwise, the session will be



1 1(Wed)

Download a Registration Form (via admission.dgist.ac.kr)

Inquiry

Tel∶+82-53-785-5147 I E-Mail∶admission@dgist.ac.kr Website : admission.dgist.ac.kr

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