INTRODUCTION TO DGIST

young and small, but strong

An Institute of Science and Technology founded by the Korean Government

To benefit society through development and advancement of science and engineering

- by conducting research on grand challenge issues that face the mankind and
- by educating talents who will make the world a better place through discoveries and innovation

* Year of the 1st Matriculation
OVERVIEW ON DGIST

Founded as a Research Institute
Graduate School established (M.S. & Ph.D. programs)
Undergraduate School established (Bachelor’s)
Conferred its first Ph.D. degrees
Conferred its first B.S. degrees

* Alumni: 96 Bachelor’s, 279 Master’s, 40 Doctoral degrees conferred (as of Feb 2018)

MEMBERS

Total 2,083
As of February 2018

Faculty & Staff

- Faculty 196
- Administrative Staff 193
- Researcher 235
- Total 624

Student

- Bachelor’s 852
- Master’s 221
- PhD 160
- Integrated MS-PhD 190
- Total 1,459

Unit: number of persons
DGIST
KEY VALUE

VISION

WORLD-LEADING
CONVERGENCE UNIVERSITY

EDUCATIONAL PHILOSOPHIES: 4Cs

Creativity
Challenge
Collaboration
Care

DGIST SPIRITS: M.V.P.

Mission
A clear mission to fulfill roles and responsibilities given by the nation and world

Vision
An enterprising vision to go beyond excellence

Passion
An undaunted passion to achieve the mission and vision
KEY RESEARCH AREAS

Emerging Materials
- Quantum materials
- Nano / Bio Materials
- Computational materials

Information & Communication Technology
- Cyber Physical Systems
- Bio-medical Systems
- Smart Connected Systems

Medical Robots
- Surgical Robot
- Rehabilitation and Life Support Robots
- Bio Micro-Nano Robot / BR
- Robot Design & Service Robot

Green Energy
- Renewable Energy
- Energy conversion and storage
- Materials design

Brain & Cognitive Sciences
- Neuro-metabolism
- Sensory Systems
- Neuro-degeneration
- Theoretical Biophysics

New Biology
- Aging Biology
- Nano-bio Imaging
- Systems and Complex Biology
- Bio-sustainability
- Biochemistry and Biophysics
SCHOOLS AND RESEARCH INSTITUTES/CENTERS

**College of Transdisciplinary Studies**

**Single School without Department**
- School of Undergraduate Studies

**Graduate School**

**6 Majors**
- Emerging Materials Science
- Information & Communication Engineering
- Robotics Engineering
- Energy Science & Engineering
- Brain & Cognitive Sciences
- New Biology

**Office of Research Affairs**

**3 Centers**
- Center for Core Research Facilities
- Supercomputing and Big Data Center
- Laboratory Animal Resource Center

**Convergence Research Institute**

**11 Research Centers and 4 Research Groups**
- Research Center for Solar Energy
- Research Center for Wellness
- DGIST-LBNL Research Center for Emerging Materials
- Research Center for Resilient Cyber Physical Systems
- Research Center for Microlaser Technology
- Research Center for Future Automotive Technology
- DGIST-ETH Microrobotics Research Center
- Core Protein Resources Center
- Well Aging Research Center
- Research Center for Collaborative Robots
- Global Center for Bio-Convergence Spin System
- Companion Diagnostics and Medical Tech Research Group
- Smart Textile Convergence Research Group
- Magnet-Controlled Materials Research Group
- Intelligent Devices and Systems Research Group

**University-Industry Cooperation Support**

- Center for Technology Commercialization
- Start-up Accelerator
- Intellectual Property Management Team
- Business Incubation Team

**Other Research Institutes**

- Center for Plant Aging Research, Institute for Basic Science
- Korea Brain Research Institute
UNDERGRADUATE PROGRAM

“INNOVATIVE CURRICULA FOR THE FUTURE CONVERGENCE ERA”

- DGIST Graduate School
- Other Graduate School
- Research Institutes, Industries, Start-ups
- Non-STEM Fields

Track-customized Education
UGRP (Undergraduate Group Research Program)

- Basic Science and Engineering
- Social Science and Humanities
- Creative Leadership
- Entrepreneurship

YEAR

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GRADUATE SCHOOL

Emerging Materials Science
- Quantum materials
- Nano / Bio materials
- Computational materials

Information & Communication Engineering
- Cyber Physical Systems
- Bio-medical Systems
- Smart Connected Systems

Robotics Engineering
- Surgical Robot
- Rehabilitation/Life Support Robots
- Bio Micro-Nano Robot / BR
- Robot Design & Service Robot

Energy Science & Engineering
- Renewable Energy
- Energy conversion and storage
- Materials design

Brain & Cognitive Sciences
- Neuro-metabolism
- Sensory Systems
- Neuro-degeneration
- Theoretical Biophysics

New Biology
- Aging Biology
- Nano-bio Imaging
- Systems and Complex Biology
- Bio-sustainability
- Biochemistry and Biophysics

• All classes in the graduate school are delivered in English.
• Semester: March~June (Spring), Sep. ~Dec. (Fall)
OTHER RESEARCH DIVISIONS

Korea Brain Research Institute
- DGIST-affiliated and Korea’s first government-funded national research institute for brain research
- Founded to concentrate national brain research abilities and serve as hub of national brain research

IBS-Center for Plant Aging Research
- A national research group that receives research funding from the Korean government annually
- System understanding on the complex processes of plant senescence and life span

Center for Core Research Facilities

DGIST Supercomputing & Bigdata Center

Laboratory Animal Resource center

Office of University-Industry Cooperation

Center for Technology Commercialization and Innovation

Center for Technology Incubation and Development of Entrepreneurs
TECHNOLOGY-INVESTED STARTUP

Innovative Startup Model combining Public Institution’s Advanced Technology and Private Entities’ Management Capabilities

Ideal Startup Model with maximized synergy effect through combination of researcher’s research ability and entrepreneur’s management skills
DGIST TECHNOLOGY-INVESTED STARTUPS

- **Green Mobility**
  - Personal Mobility
  - Two/three-wheeled Electric Vehicles

- **Jeongkwan Materials**
  - Thermo-electric refrigeration and industrial ventilation system

- **Innature C&H**
  - Functional facial mask pack fused with nano fiber

- **Care-Robo Systems**
  - Training and Rehabilitation Robots

- **DGM-Tech**
  - Logistic robots and rehabilitation products

- **Vine IT**
  - Smart Campus Solutions

- **Korean Materials**
  - Metal hydroxide-based flame retardant and insulation

- **G-Tech ICS**
  - Steel and concrete composite structure maintenance robot

- **Pyunghwa Tech**
  - Research Institute
  - MEMS Microphone

- **MEGAPEM**
  - Endoscope for olfactory stimulation system

- **C2LGIS**
  - MMS, 3D Camera, LDAR

- **DrimAES**
  - AUTO-SA-based Automobile SW Platform

- **GNS Mobilence**
  - Portable Smart TV available for disaster response

- **NEOCOGNO**
  - Smart Interaction Commercialization
DGIST is working together closely with our partners around the world to promote mutual development in education and research.

**Japan**
- Waseda University (Graduate School) 2012
- Yamanashi University 2011
- University of Tokyo (Hori Lab) 2009
- Kyoto University (Institute for Chemical Research) 2008

**United States**
- Agilent Technologies 2012
- Purdue University (College of Technology) 2012
- Lawrence Berkeley National Laboratory 2012
- MIT (Biomimetic Robotics Lab) 2012
- University of Texas, Dallas (School of Eng.) 2012
- Texas A&M University 2011
- Johns Hopkins University 2010
- California Institute of Technology (Hoffmann Lab) 2009
- University of Virginia 2016

**Hong Kong**
- Hong Kong Polytechnic University (Dept. of Computing) 2012

**Switzerland**
- Swiss Federal Institute of Technology Zurich 2012

**Netherlands**
- Maastricht University (2015)

**Spain**
- Universitat AutUnoma de Barcelona 2009

**Hungary**
- University of Debrecen (Medical and Health Science Center) 2010

**India**
- Indian Institute of Science (IISc), Bangalore 2012

**Germany**
- The German Research Center for Artificial Intelligence (Robotics Innovation Center) 2011

**France**
- The Institut National des Sciences Appliquées Centre Val de Loire (2016)
- The University François-Rabelais of Tours (2017)
Daegu Technopolis
• Area: 7.3 km²
• High-tech multi-functional new city
• Universities, research institutes, high-tech industries

Daegu National Industrial Park
• Area: 8.5 km²
• Industries from home and abroad
• 9 kms away from DGIST