전에 기여하고 있는 POSTECH(포항공대)는 1986년에 개교하였다. 교육을 통해 보국하자는 고(故) 박태준 설립이사장의 교
POSTECH opened its doors in 1986 as the first research-oriented university in Korea to educate the brightest minds in the country and lead the transition of Korea’s higher education from dissemination to creation of knowledge. Since its establishment 30 years ago, POSTECH has taken on numerous challenges and innovations to revolutionize the culture of and raise the bar for scientific research in Korea. As such, the past three decades represent the proud history of POSTECH, which has marked a meaningful milestone in the community of higher education and science/engineering in Korea and has since grown into one of the top universities in Asia.

Now, POSTECH is poised to take another leap forward over the next three decades: driven by the open and fearless spirit to tackle the unknown, it will serve as a flagship university that proposes a new role for value creation in society. We at POSTECH will continue to dedicate ourselves to our mission—providing the finest education and fostering talented youth into leaders equipped with a comprehensive and essential skill set for the future. Also, we will further build upon the research excellence POSTECH has achieved thus far to make direct contributions not only in expanding boundaries of scientific knowledge but also in leading the socio-economic progress of the country and region.

The founding tenets of POSTECH aim to serve the nation and humanity through education, research, and industry-academic co-operation. Going forward, we will spare no efforts to open a new path of value creation through continuously ensuring “devoted education,” “outstanding research,” and “robust job and business creation” and to develop into a top global university that proudly represents Korea.

President of POSTECH
Doh-Yoon Kim

POSTECH shall open a new path of “value creation”
To select well-rounded talents, POSTECH began to handpick all of its undergraduate students with a comprehensive admission process that looks into not only the applicants’ school grades but also their educational history, talent and aptitude, and growth potential.

Declaring itself as a Bilingual Campus, POSTECH began to use both Korean and English in all of its operations.

POSTECH fully supports the students to engage in self-driven learning through massive open online courses (MOOCs), approving the credits earned from the online courses towards degrees.

POSTECH in collaboration with corporations identifies and recruits exceptional researchers as its tenured faculty. The University-Industry Professors serve as the bridge between the two institutions and lead joint research projects.

POSTECH is one of only two universities in the world with a fourth-generation synchrotron accelerator, a massive research facility that creates a light 100 million times brighter and 1,000 times faster than the third-generation accelerator.

Cafeteria remodeled into the Haedong-Aurum Hall
Facts and Figures

**3.4 : 1**
Undergraduate student to faculty ratio

**USD 75,000** of Annual education expenditure per student (15 times greater than tuition per student)

**6.8**
SCI (E) papers per faculty member

**14.7**
Citations per paper

**1995 – 2015**
*# 1*
JoongAng Ilbo University Rankings (10 times)

**2010**
*# 28*
World University Rankings (THE)

**2012 - 2014**
*# 1*
World’s 100 Best Universities Under 50 Years Old (THE)

**2016**
*# 8*
Asia University Rankings (THE)

**2017**
*# 3*
World’s Best Small University Rankings (THE)

First university in Korea to recruit all undergraduate students through comprehensive admission

Admits only **320** top-tier freshmen each year through a highly selective process

Highest research intensity in the world in collaboration with industry (THE, 2017)

Industry funding accounting for **28.3%** of the total university research fund

SCI (E) impact factor per paper
High-quality Education & Low Student-to-Faculty Ratio

POSTECH strategically maintains its small size and excellence in quality by admitting only 320 top-notch students each year to the undergraduate programs through a highly selective process. This creates an intimate learning environment where each and every student receives one-on-one mentoring and personal attention necessary for their all-round growth.

Undergraduate Research Program (URP)

Undergraduate Research Program (URP) encourages undergraduates to design their own research projects and conduct research under the close supervision of professors and experts. URP offers the students with an opportunity to take lead from the beginning to end of a research project to help them grow their dreams as future researchers. All URP participants receive a scholarship in addition to research funding necessary to carry out their projects.
POSTECH encourages the students’ active participation in class and self-driven learning through a flipped learning approach. The students will study class materials online beforehand and engage in discussions and collaborative projects during class to further develop their ideas.

Taking advantage of Massive Open Online Courses (MOOCs), the students can actively seek out more knowledge online without limiting themselves to the classroom or majors. POSTECH is the first Korean university to count MOOC credits towards a degree and provide various support for students in attaining certificates upon completing the online courses. Meanwhile, POSTECH opens up its outstanding courses to the general public in the form of MOOCs in an effort to give back to society and bring science closer. Also, participation and feedback from a wider audience will improve the quality of courses.

Undeclared Major for All Freshmen

Starting with the entering class of 2018, POSTECH freshmen are to enjoy a whole year of flexibility, exploration, and challenge in their academic pursuit as an undeclared major. When declaring a major later, students can choose a major of their interest regardless of their GPA as there is no fixed quota or cut-off score.

The undeclared major policy is a measure to help students freely explore diverse academic interests and immerse themselves in the joy of learning without fear of hurting their GPA. Therefore, POSTECH freshmen are to spend their first year at the university on taking various courses offered by different departments to find their paths through consultations with their seniors and professors. The undeclared major policy boosts students’ self-driven learning, while encouraging academic departments to continuously improve their programs to win over more students.

MOOCs to Enhance Self-driven Learning

POSTECH 2017-2018

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Summer Experience in Society (SES)

In 2016, POSTECH introduced a change in the academic calendar to extend the length of summer vacation to three months, encouraging the students to take the opportunity to fully immerse themselves in society. Unlike most other universities in Korea that have less than 10 weeks for summer recess, POSTECH has made the bold move in order to provide its students with sufficient time and institutional support to pursue their interests in greater depth and gain a better understanding of society. The extended break not only makes it easier for students to participate in overseas programs, travel, or start their own business, but also facilitates career path exploration and hands-on experience building by interning at global corporations or research institutes through the SES internship match-up program.

Interdisciplinary Minor on Entrepreneurship

POSTECH offers an interdisciplinary minor program that is designed to cultivate the students’ entrepreneurial spirit and skills. It aims to encourage the students to take advantage of their education and research gains to realize their innovative ideas, and ultimately contribute to the regional and national economy by starting one’s own business. Unlike other minor programs offered by single departments, multiple departments jointly operate this program to offer an integrated curriculum that cultivates creativity in students and gives them access to practical business experiences. The Entrepreneurship Interdisciplinary Minor program will be part of the mandatory curriculum for undergraduate engineering students starting from 2018.

Residential College (RC)

The residential college system is the heart of the POSTECH campus life. It offers students with an intimate and supportive living community that inspires their social, intellectual, and personal growth. The system brings together all the freshmen and sophomores to live in the RC with faculty serving as dorm master. A wide range of programs and events are available for the RC residents, which include but are not limited to leadership development and bonding activities, special lectures by invited speakers, cultural performances, and volunteer opportunities. Undergraduate juniors, seniors, and graduate student couples live in general dorms, while married student couples live in a separate apartment run by the university, accommodating every student to live on campus in various forms.

EDUCATION

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EDUCATION
Leaders with Intelligence, Moral Virtues, and Physical Toughness

Launching of the POSTECH Rowing Club

Rowing is commonly known as a “gentleman’s sport” that requires a full-body workout. Through rowing, POSTECH students have access to the world of training that challenges their physical and mental limits and helps foster strength, leadership, and teamwork skills—necessary traits they need to grow as global leaders of the future.

Student-to-student Mentoring Program (SMP)

Students benefit from an in-house mentoring program through which upperclassmen engage with and support their underclassmen. SMP fosters a sense of community and helps freshmen adapt to a new environment with upperclassmen’s assistance on every aspect from academics to campus life.

Leaders Devoted to Humanitarian Values

The founding tenets of POSTECH place a strong emphasis on the spirit of servant leadership: to devote oneself to the betterment of the nation and humanity as a global leader. Based on this philosophy, POSTECH students realize the value of sharing by continuously engaging in volunteer services for the local community and educational outreach programs.
**POSTECH Going Global**

**Korea’s First Bilingual Campus**
Upper level undergraduate courses and all graduate coursework at POSTECH are offered in English. In addition, major university-wide events including matriculation and commencement are conducted both in Korean and English. Administrative services within POSTECH— including signposts, notices, forms, and information centers—are provided in both languages.

**International Student and Scholar Services (ISSS)**
POSTECH operates the International Student and Scholar Services (ISSS) to assist international students and scholars to successfully accomplish their academic and research goals by providing support in various areas. The ISSS offers a wide range of services including orientation, cultural experience and field trips, counseling, and administrative and daily living assistance.

**Student Exchange Program**
POSTECH has partnerships with 104 institutions in 29 countries to enable diverse academic exchange programs, including faculty/student exchange, joint research projects, and educational outreach programs for developing countries. Credits earned in the exchange programs are counted as official credits towards a degree.

**Summer Session Programs**
POSTECH supports its students to take courses and enjoy diverse cultural experience opportunities at its partner universities during the summer session.

**AEARU Student Summer Camp**
The Association of East Asian Research Universities (AEARU) holds an annual summer camp for academic exchange to promote friendship among its member universities and their students. The AEARU summer camp is increasingly becoming a networking venue for the future leaders of Asia.

### Overseas Partner Institutions

#### Asia

- China
  - Peking U
  - Harbin Institute of Technology
  - Tsinghua U
- Japan
  - Hokkaido U
  - Kyushu U
  - Kyushu Institute of Technology
  - Nagoya U
- India
  - Indian Institute of Technology, Delhi
- Indonesia
  - Institut Teknologi Bandung
- South Korea
  - Korea Advanced Institute of Science and Technology
  - Korea University
  - Sogang University
  - Sungkyunkwan University
- Singapore
  - Nanyang Technological U
  - National U of Singapore
  - Singapore U of Technology and Design
- Taiwan
  - National Chiao Tung U
  - National Taiwan U
  - National Taiwan Hwa U
- Thailand
  - Chulalongkorn U
  - Mahidol U
  - Suranaree U of Technology
- Vietnam
  - Hanoi National U of Science
  - Hanoi University of Science & Technology
  - Hanoi University of Science and Technology
  - Vietnam National U of Science & Technology

#### Europe

- Austria
  - Graz U of Technology
- Belgium
  - Ghent U
- Denmark
  - Technical U of Denmark
- France
  - Bordeaux INP
  - INSA Lyon
  - Institut polytechnique de Grenoble
  - Mines Saint-Etienne
  - MINES ParisTech
- Germany
  - Freie Universität Berlin
  - Max Planck Gesellschaft
  - RWTH Aachen
- Italy
  - Politecnico di Torino
  - Politecnico di Milano
  - Università di Bologna
  - Università di Firenze
  - Università di Padova
  - Università di Pisa
  - Università di Trento
  - University of Cagliari
- Spain
  - U of Barcelona
- Switzerland
  - ETH Zurich
  - Ecole polytechnique fédérale de Lausanne
- United Kingdom
  - Imperial College of Science, Technology & Medicine
  - University of Birmingham

#### Oceania

- Australia
  - U of Melbourne
  - U of New South Wales
  - New Zealand
  - U of Auckland
- Netherlands
  - Radboud U
  - U of Twente
- South Korea
  - KAIST
  - POSTECH

#### Americas

- Brazil
  - UNICAMP
  - U of São Paulo
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POSTECH research makes a difference today and creates a brighter tomorrow

Unlocking the Mysteries of Life and Nature
- Identifying protein structures and cellular mechanisms to fight diseases such as cancer, autoimmune disorder, and high blood pressure
- Searching for genes to maximize plants’ resilience to drought and blight
- Drawing inspiration from nature to develop innovative biomimetic technologies
- Studying unknown factors behind changes in climate and marine ecosystems

Sustaining Planet Earth
- Devising new ways to produce next generation energies such as frictional electricity and solar power on a commercial scale
- Designing molecular structures and synthesizing environmental-friendly materials
- Engineering nanomaterials to eliminate nanoscale pollutants or prevent leakage of toxic materials

We are...

Pushing the Limits
- Fabricating nano-electronic devices for better information processing and data storage with extremely high density and low power
- Formulating new types of steel that are lighter, stronger, and more ductile than existing steels
- Creating nano capsules that precisely deliver treatments to desired destinations in the body
- Designing fingernail-sized biochips that allow much easier diagnosis of diseases

Turning Imagination into Reality
- Easy and thorough health checkup with photoacoustic technologies, a combination of sound and light waves
- Human tissues fabricated from 3D printer and bio ink
- Smart contact lenses that check the blood sugar level and release diabetes treatments
- Adaptable materials that turn superhydrophobic or superhydrophilic when exposed to light
- 3D visualization technologies for virtual surgical training to boost success rate of surgeries

POSTECH aspires to become one of the world’s leaders in major research fields including basic science, new materials, ICT, energy, bio-healthcare, and convergence science. Gaining momentum from its cutting-edge research infrastructure, POSTECH researchers ceaselessly strive to move the world forward and open new possibilities through ground-breaking scientific discoveries. As we secure fundamental technologies, turn research achievements into real world’s applications, and build our own unique startup ecosystem, POSTECH is making changes today and creating tomorrow’s world.

POSTECH research makes a difference today and creates a brighter tomorrow.

01. Cucurbituril, pumpkin-shaped molecules, can be developed into DNA chips and anticancer drugs

02. Researchers are studying Arabidopsis Thaliana to unveil the secrets of plant genes

03. Artificial human tissue has been created from a 3D printer and bio ink
State-of-the-art Research Infrastructure

Pohang Accelerator Laboratory (PAL)

The third generation light source, Pohang Light Source (PLS-I), is the fifth in the world and the only synchrotron radiation accelerator in Korea. This national research facility, the heart of Korea’s cutting-edge science, enables studies on various structural characteristics of materials using light. The facility is utilized in various basic science and high-tech industrial research.

The fourth generation light source, PAL-XFEL, was constructed in 2016 and has successfully produced the “X-ray free-electron laser” (XFEL), which is considered by many to be the “dream light.” Following the United States and Japan, Korea has become the third country with one of the most advanced tools to explore the unknown territories of science and technology. The XFEL, which has an extremely short wavelength, a speed of lighting, and the brightness 10 billion times greater than the 3rd generation light source, is anticipated to open the road to revolutionary breakthroughs in all scientific research. As the XFEL is extremely useful, in particular, in the examination and analysis of protein structures and molecular chemical reactions, POSTECH, collaborating with the local government to make Pohang the R&D hub of Pharmaceuticals, is constructing the Pohang Fourth-generation Synchrotron Accelerator (PLS-II), the fifth in the world and the only synchrotron radiation accelerator in Korea. The facility was constructed in 2016 and has successfully produced the “X-ray free-electron laser” (XFEL), which is considered by many to be the “dream light.”

The Institute for Basic Science (IBS) is a national research institute dedicated to pursuing excellence in basic science research with a vision to advance the frontiers of knowledge and train the leading scientists of tomorrow. IBS has selected global leading scientists as directors of its individual centers through its competitive grant programs. These directors are operating 38 centers in total, four of which are located on the POSTECH campus. POSTECH has the largest number of IBS research centers as a single university in Korea.

• Center for Soft assembly and Complexity: Director Kwang-Moon Kim
• Center for Geometry and Physics: Director Yong-Gau Oh
• Academy of Immunology and Microbiology: Director Charles Suh
• Center for Artificial Low Dimensional Electronic Systems: Director Han-Whoo Yong

Max Planck POSTECH / Korea Research Initiative

The Max Planck-POSTECH/Korea Research Initiative runs two centers at POSTECH and carries out joint international research projects in close collaboration with the Max Planck Society of Germany, one of the world’s best research organizations for basic science. The Max Planck-POSTECH Center for Attosecond Science and the Max Planck-POSTECH Center for Complex Phase Materials are committed to securing the world’s leading researchers and conducting research projects in their respective fields. In addition, they serve as a bridge and give POSTECH students a chance to visit and participate in world leading research projects at the Max Planck Centers in Germany.

Asia-Pacific Center for Theoretical Physics (APCTP)

The Asia Pacific Center for Theoretical Physics (APCTP) is an international non-government organization founded to promote cooperation between physicists in member countries of the Asia Pacific region and others. Serving as a regional hub of theoretical physics research, APCTP is engaged in diverse activities, including leading research projects, facilitating international joint research programs, training young scientists in the Asia Pacific region, and popularizing science within the general public. It has 16 member countries, including Australia, Japan, China, and Canada, with its Korean headquarter located at POSTECH.

The Institute for Nanomaterials Technology (NINT)

The National Institute for Nanomaterials Technology (NINT) is a research infrastructure for nanotechnology with state-of-the-art equipment and facilities thanks to the concerted effort from a consortium of industry, academia, research institutes, and government. NINT is dedicated to securing next generation technologies and nanomaterials that will boost national competitiveness and industrial growth. NINT provides all encompassing support for researchers within the university ranging from the initial research stage to commercialization of technologies.

As a hub of industry-academia collaboration, POSTECH Biotech Center has laid the groundwork for identifying and commercializing new technologies. POSTECH is contributing to the progress of biotechnology in Korea through continuous development and application of fundamental technologies.

POSTECH Biotech Center (PBC)

Graduate Institute of Ferrous Technology (GIFT)

The Graduate Institute of Ferrous Technology (GIFT) was founded in 1955, as the world’s only fully accredited institute of higher learning offering graduate education in the field of steel science and technology. GIFT provides quality education to foster experts and develop cutting-edge technologies in the steel industry. Propelled by its close cooperation with industry and research institutes, GIFT is striving toward generating and applying state-of-the-art technologies in the field.
University as Pillar of the Community

“Univer+City” for Mutual Growth

“Univer+City” is an amalgam of “university” and “city” to symbolize a collaborative initiative to pursue the mutual prosperity and development of universities and their cities. To continuously propel the economic development in Pohang and Ulsan, two major industrial cities in the nation, the two cities’ governments, local chambers of commerce, and higher education institutions including POSTECH have come together and are broadening their efforts to develop concrete plans for stronger collaboration. Another member of the Haeorum Alliance in the south-east region of Korea, Gyeongju, has also joined the “Univer+City” initiative to add momentum.

University-Industry Integrated Research Centers on Campus

POSTECH is developing an increasingly stronger drive to create value and make direct contributions to the society not only through its research but through collaborations with the business sector. POSTECH launched the University-Industry Integration initiative in 2016 to take university-industry collaboration to a higher level and has established two UII research centers on campus.

University-Industry Professorship

In addition to the research centers, POSTECH’s University-Industry Professorship program allows the university to identify and recruit exceptional researchers as its tenured faculty members in collaboration with corporations. Corporations make recommendations to the university on competitive researchers who have field-expertise and insights on market-oriented technologies, and the university makes the final decision. The salary of U-I Professors is jointly paid by the corporation and the university as they are the bridge between the two institutions and lead joint research for mutual benefit.

APGC - Lab

The APGC-Lab is an in-house venture start-up incubator run by the Association of POSTECH Grown Companies (APGC). To cultivate entrepreneurship in POSTECH students and inspire, train, and assist them in launching new businesses, APGC-Lab provides a wide range of support including diverse education courses, start-up mentoring, angel investment, and management consulting. The APGC-Lab takes the lead in the growth of start-ups and promotes entrepreneurship within the campus.

Research Hub

The Research Hub, an in-house research complex for private businesses, serves as an intermediary between researchers and businesses looking for technology solutions. The Research Hub matches the technologies in demand with those owned by the university and helps the industry create innovation using POSTECH’s knowledge and technologies. The Research Hub also supports local hidden champions and businesses that contribute to the growth of the local community as well as those with the potential and capacity to do so. POSTECH helps these businesses take root by offering low rent in the O building, allowing usage of the university’s research facilities, participating in joint research projects, and providing technology consulting services.

Advance Pohang Forum

POSTECH established the Advance Pohang (AP) Forum to bring together local leaders to discuss the growth of the community in Pohang. The AP Forum is composed of members of the Pohang Chamber of Commerce and Industry and business leaders of the Pohang Steel Industrial Complex. As part of its efforts to identify the mid- to long-term growth strategies of Pohang, the forum holds a breakfast seminar on a monthly basis. Also, the forum has been undertaking an annual project since 2013 to benchmark overseas regions in studying the best practices of successful local communities, particularly those that have achieved excellent innovations.

POSTECH’s contribution drives the growth of industry and the local community

Korea’s First University-Industry Professorship

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POSTECH creates value for society and humanity

POSTECH shall open a new path of “value creation”

Founding Tenets

- Nurture future global leaders through outstanding education
- Conduct pioneering research and development in science and engineering
- Serve the nation and humanity through education, research, and industry-academic collaboration

Human Value

Knowledge Value

Socio-economic Value

Devoted Education

Outstanding Research

Job Creation