“We will build together a global university that contributes to the nation and humanity”

President’s Message

Founded as Korea’s first research university in 1986, POSTECH has constantly led change and innovation in Korea’s higher education under its founding tenets of serving the nation and humanity through education, research, and industry-academic cooperation. Despite the disadvantages of its brief history, being located in a non-English speaking country and a non-capital city, POSTECH has grown into a leading university in Korea as well as in Asia.

Underlying POSTECH’s tremendous growth is the power of together. All of this was achieved in just about 30 years because the university community, POSCO, the local and central governments, corporations, and everyone who loves POSTECH joined forces under one accord to develop POSTECH into a world-class research university that will light the future of Korea.

Looking ahead, POSTECH will answer the high calling to hold true to its founding tenets through academic and research excellence. We will step forward by providing education that students demand, ‘research that the industry and the future requires,’ and ‘university management that today’s POSTECH needs.’

I believe the new chapter of POSTECH that begins now will reap fruitful results when we accept, tolerate and harness the power of the diversity of our university community, units, partners and corporations. POSTECH will also continually innovate and move forward with you to create a hopeful future for all.

President of POSTECH

Kim Jin Heum
1986: Foundation of POSTECH
Korea’s first research-oriented university
“The most ideal way to lay our hands on cutting-edge technologies is to ensure mutual growth by promoting close cooperation between industries, research institutions, and universities.”

The late Joon Park, the late founding chairman in his remarks at the opening ceremony in 1986.

1994: Built Korea’s first and only synchrotron light source, PLS (currently PLS-I)
To take Korea’s science to the next level, POSTECH and the Korean government began work on a collaborative project to build a third generation synchrotron accelerator in 1986, which took six years and successfully made POSTECH the fifth institution in the world with such a facility.

1996: First in Korea to introduce MS/PHD combined degree programs
POSTECH began to offer MS/PHD combined degree programs to allow highly qualified students to focus on in-depth research projects and accelerate degree attainment.

2000: First in Korea to implement an annual salary system for the faculty
The performance-based salary system contributed to improving the quality of teaching and research.

2000: Established the Pohang Techno Park jointly with the city of Pohang and POSCO

2003: Established the Joon Park Digital Library and the POSTECH Biotech Center
2005: Established the world’s first Graduate Institute of Fuzzy Technology (GITT)
2007: Established the National Center for Nanomaterials Technology (NCNT) (currently operating as the National Institute for Nanomaterials Technology)
2007: Established the POSCO International Center

2006: First in Korea to establish a Residential College
In line with the university policy that requires all students to live on campus, POSTECH enhanced students’ living experience with holistic educational opportunities through the Residential College.

2007: First in Korea to select all undergraduates through comprehensive admission
To select well-rounded talents, POSTECH began to handle 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.

2008: Korea’s first bilingual (English-Korean) Campus
Deciding itself as a bilingual campus, POSTECH began to use both Korean and English in all of its operations.

2009: #8 in the World University Rankings by Times Higher Education (THE)
2011: Established Max Planck POSTECH Center

2013: Established the Joon Park Digital Library and the POSTECH Biotech Center

2014: #1 in the World University Rankings by THE
2016: Established Max Planck POSTECH Center

2016: Third in the world to establish a fourth-generation synchrotron accelerator (PAL-XFEL)
POSTECH is one of only two universities in the world with a fourth-generation synchrotron accelerator, a massive research facility that creates a light 1,000 times brighter and 1,000 times faster than the third-generation accelerator.

2017: Cafeteria remodeled into theHeading
Aurora Hall
2018: Maturation of first undeclared major program
2018:Launch of POSTECH Fund
2018: Declaration of POSTECH-Yonsei University Open-sourced program
2018: Opening of Future City Innovation Research Center
2019: Construction began for Blu Open Innovation Center (BlOIC)
2019: Evaluation of blockchain campus, the first one in Korea

2019: #1 in the World’s 100 Best Universities under 50 Years Old by the THE
2019: First in Korea to count MOOC credits towards degrees
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.

2019: First in Korea to implement the University-Industry Partnership
Through the program, POSTECH in collaboration with corporations identifies and recruits exceptional researchers from its tenure faculty.
The University-Industry Professors serve as the bridge between the two institutions and lead joint research projects.

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### Facts and Figures

#### 2010 – 2016

**# 1**
Ranked #1 in Asia’s Specialized Universities category for 7 consecutive years

#### 2012 - 2014

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

#### 2016

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

#### 2019

**# 1**
World’s Most Innovative Universities in Asia, ranked 12th on the World’s (Reuters)

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

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2.9 : 1
Undergraduate student to faculty ratio

USD 77,900 of Annual education expenditure per student (15 times greater than tuition per student)

6.7
SCI (E) papers per faculty member

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

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

17.6
Citations per paper

5.49
SCI (E) impact factor per paper
POSTECH’s education nurtures innovative leaders with knowledge and wisdom.

High-quality Education & Low Student-to-Faculty Ratio

POSTECH strategically maintains its small size and excellence in quality by admitting only its 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.
Undeclared Major for All Freshmen

Starting with the entering class of 2019, 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 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 provides various support for students in obtaining 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.
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 students to take the opportunity to fully immerse themselves in society. Unlike most other universities in Korea that have less than two weeks for summer recess, POSTECH has made bold moves in order to provide students with sufficient time and mento-

tional 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.

211 INSTITUTES

SES internships are completed at more than 100 institutions annually (211 cumulatively), including national and global corporations such as Samsung, LG, SK, POSCO, Lotte, Kakao, Naver, and Microsoft, at research institutes like the Max Planck Institute, Harbin Institute of Technology, Hong Kong University of Science and Technology, Chinese University of Hong Kong, Korea Institute of Science and Technology (KIST), Korea Aerospace Research Institute (KARI), and National Fusion Research Institute (NFRI), and at alumni and venture companies such as Genex, EXEM, and PUBG. In addition to students seeking employment or pursu-

ing their own startups, those who dream of becoming researchers also participate to gain on-the-job training for up to three months.

3 MONTHS

Interdisciplinary Minor on Entrepreneurship

POSTECH offers an interdisciplinary minor program that is designed to cultivate the students’ entrepreneurial spirit and skills. It aims to en-

courage the students to take advantage of their education and research gains to actualize their innovative ideas and ultimately contribute to the regional and national economy by starting their own business. Unlike other minor programs offered by single depart-

ments, 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 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 commu-

nity 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 a 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 volun-

teer opportunities. Undergraduate interns, seniors, and graduate students 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
Leaders with Intelligence, Moral Virtues, and Physical Toughness

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 academic to campus life.

Bolstering the Humanities

POSTECH, a research-focused science and engineering university, has newly reinstated its goal to educate students into global leaders who are sophisticated thinkers with regard for humanity and society, instead of simply being experts in their fields. By implementing various basic and converging curriculum in humanities and social sciences, arts and physical education, Korean writing and speaking and foreign languages including English, we are creating a leading model of liberal arts education in science and engineering universities. Furthermore, we aim to cultivate students’ scientific and humanities imagination based on outstanding research expertise and broad academic scope of professors in each field, to ultimately contribute to the growth of our society.

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.

Leaders Devoted to Humanitarian Values

The founding tenets of POSTECH places 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 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 experiences and field trips, counseling, and administrative and daily living assistance.

Student Exchange Program
POSTECH has partnerships with 155 institutions in 33 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.
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.

EXPLORE NATURE

ReSEARCH

Pushing the Limits

- Fabricating nano-electronic devices for better information processing and data storage with extremely high densities 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 biosensors that allow much easier diagnosis of diseases.

Turning Imagination into Reality

- Easy and thorough health checkup with photoscopic 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.
State-of-the-art Research Infrastructure

3RD & 4TH

Pohang Accelerator Laboratory (PAL)

The third generation light source, Pohang light Source (PLS-II), 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 2017 and successfully produced a "key-free electron laser" (XFEL), which is considered by many to be the "light of the future". Following the United States and Japan, Korea has become the third country in the world to have its own XFEL, which has an extremely short wavelength, is faster than light, and is bright enough to illuminate the entire Earth. XFELs can be used to study the behavior of particles at the atomic level and are expected to play a key role in the development of new technologies. Pohang is the only place in the world where XFELs are being used for scientific research.

Max Planck POSTECH / Korea Research Initiative

The Max Planck POSTECH (Korea) Research Initiative is a joint research project between the Max Planck Society and POSTECH. The goal of the initiative is to establish a unique research environment that combines the strengths of both organizations, allowing for cutting-edge research in a variety of fields. The initiative includes several research areas, such as materials science, energy, and information technology.

Institute for Basic Science (IBS)

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 next generation of leading scientists. IBS is one of the world's leading research institutions, focusing on some of the most challenging problems in science. IBS has over 50 research centers located across South Korea. The Institute has a unique model of collaboration, where researchers from different institutions work together in a research center to tackle the most pressing scientific challenges of the time.

• Center for Self-assembly and Complexity
  Director: Hoon Kim
• Center for Geometry and Physics
  Director: Young Geun Kim

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 for theoretical physics research, APCTP is engaged in various activities, including leading research projects, establishing international joint research programs, training young scientists in the Asia-Pacific region, and promoting science within the general public. It has 19 member countries, including Australia, Japan, China, and Canada, with its Korean headquarters located at POSTECH.

Graduate Institute of Ferrous Technology (GIFT)

The Graduate Institute of Ferrous Technology (GIFT) was founded in 1995 as the world’s only fully accredited institution 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 institutions, GIFT is striving toward generating and applying state-of-the-art technologies in the field.

National 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 an excellent environment for researchers within the university ranging from the initial research stage to commercialization of technologies.

POSTECH Biotech Center (PBC)

As a hub of industry-academia collaboration, the POSTECH Biotech Center has laid the groundwork for identifying and commercializing new technologies. PBC is contributing to the progress of bioscience and biotechnology research and industry in Korea through continuous development and application of fundamental technologies.
POSTECH’s contribution drives the growth of industry and the local community

ASSOCIATION OF POSTECH GROWN COMPANIES

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.

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 Haenam Alliance in the south-east region of Korea, Gyeongju, has also joined the “Univer+City” initiative to add momentum.

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 2019 to benchmark overseas regions in studying the best practices of successful local communities, particularly those that have achieved excellent innovations.

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.

Korea’s First University-Industry Professorship

University-Industry Integrated Research Centers on Campus

POSTECH is developing an increasingly stronger drive to create value and make direct contributions to society not only through research but 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 UI research centers on campus.

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.
POSTECH creates value for society and humanity

POSTECH shall open a new path of “value creation”

Human Value

Knowledge Value

Socio-economic Value

Devoted Education

Outstanding Research

Job 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

Campus Map

Dormitories and Residential Area
- Jangchungdang
- Student Community
- Residential College
- Graduate Student Apartments
- Faculty Apartments
- Dormitory
- POSTECH
- Memorial Hall
- Postgraduate Apartments
- Jangchungdang
- Jangchung Hall

Department Facility Area (East Campus)
- Physics Research Laboratory
- National Institute for Nanotechnology (NINT)
- Life Sciences Building
- MacBio Shop
- Mechanical Engineering Laboratories Building
- Wind Turbines
- Research Building I
- Research Building II
- Chemistry Building
- POSTECH Laboratories Building

Location
- Main Campus
- Dormitories and Residential Area
- Department Facility Area (East Campus)
- Research Institutes of Industrial Science & Technology (RIIST)
- Main Gate

Main Gate
- Jangchungdang
- East Gate
- Jangchungdang
- University Road
- Admistration Circle
- Manhwa Edison
- Supplies

RIIST
- POSTECH
- POSTECH Research Building I
- POSTECH Research Building II
- POSTECH Research Building III
- POSTECH Research Building IV

Library and Research Facilities
- POSTECH Library
- Library and Research Building
- POSTECH Research Center
- POSTECH Institute of Material Industry Development
- POSTECH Institute of Nanotechnology
- POSTECH Institute of Social and Natural Convergence
- POSTECH Institute of Future and Convergence
- POSTECH Institute of Future and Convergence
- POSTECH Institute of Complex System Technology (COST)

Research Institutes of Industrial Science & Technology (RIIST)
- RIIST
- RIIST
- RIIST
- RIIST