

KU SEJONG

2025 VOL.09

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KU SEJONG 2025 Vol.09

Publisher	Kim Young
Editor	Kim Junghack
Publishing Source	Korea University Sejong Campus
Editing Source	Public Relations & Fund Management Team Tel. 044-860-1403 Fax. 044-860-1004 E-mail. kuszine@korea.ac.kr
Planning	Public Relations & Fund Management Team
Reporting-Photo	Public Relations & Fund Management Team KU Sejong Student PR Team, KUS-ON
Design Production	Goodnalc

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Korea University Sejong Campus-Sejong City Collaboration for the Development of a Self-Sufficiency Site and Smart National Industrial Complex

Korea University Sejong Campus is driving innovation in various fields including education, research, and administration to respond to the future society while establishing an organic relationship with Sejong City. Through this collaboration, the university aims to cultivate convergence-driven innovation individuals who will lead new growth national projects such as future mobility and smart cities.

By 2029, a 'Smart National Industrial Complex' will be established in Sejong City. This complex will be specialized in new materials and components, aligning with the government's policy to ensure the stable supply of 150 key materials, parts, and equipment items within five years. To achieve this goal, it is essential to cultivate highly specialized professionals who will play a leading role in driving the local industry.

Korea University Sejong Campus was selected for the Semiconductor Specialization University Support Project in the 'Advanced Semiconductor Process Equipment Field' in 2023 and is carrying out a four-year project worth 28 billion won. In the second semester of 2023, the university established a Convergence Major in Advanced Semiconductor Process Equipment, and in the first semester of 2024, it introduced new courses in the program, including: Basic Semiconductor Physics and Practice, Semiconductor Interface Processes, Microprocessor Applications, Opto-Mechatronics, and Semiconductor Automation Systems. Through these initiatives, the Sejong Campus is striving to supply top-tier human resources that will enhance industrial research capabilities and global competitiveness. Additionally, by providing field-based education through research and business collaboration, the university is committed to nurturing advanced semiconductor process equipment specialists who will lead the local and national semiconductor industry. Furthermore, it has established the Graduate School of Convergence Semiconductor Engineering, creating a collaborative education and research model for SK Hynix's semiconductor professionals.

As Sejong City designates the cybersecurity industry as a key development project through the 'Cybersecurity Opportunity Development Zone', cultivating cybersecurity professionals has become crucial. In response, Korea University Sejong Campus is actively training cybersecurity experts to support the Digital New Deal. Through the University ICT Research Center (ITRC) under the




Ministry of Science and ICT, the university is securing next-generation cybersecurity technologies, fostering specialized professionals, and supporting the smart city industrialization of the data security industry. It also co-hosts 'HackTheon Sejong,' further reinforcing its commitment to cybersecurity innovation.

Additionally, the university is accelerating the development of global individuals in future mobility technologies, including autonomous driving, by integrating various engineering disciplines.

Korea University Sejong Campus was also selected for the Advanced Innovation Convergence University Project in the Eco-Up Industry and will receive 40.8 billion won over four years to nurture 'Green Technology Innovators' who will lead the smart environmental industry. To achieve this, the university offers convergence majors and micro-degrees, hosts the Eco-Up Fair to build networks between eco-friendly companies and students, and develops 86 specialized courses linking six key eco-up sectors with three major technologies. These efforts aim to cultivate professionals who will lead Sejong's Smart City National Pilot Project.

Furthermore, the university was selected for the ICT and Broadcasting Innovation Talent Development Project (ITRC) in the Healthcare ICT Field, securing up to 7.5 billion won in funding over eight years. This

initiative focuses on AI-based technology research and development to support Sejong's bio-health industry, one of the city's core industrial sectors.

Vice President Kim Young stated, "Training professionals in advanced industries, which will shape national competitiveness, is one of our most important missions. We will make the utmost effort to nurture them by the times, in close collaboration with Sejong City, leveraging our outstanding faculty and advanced research infrastructure." 



Korea University Sejong Campus Leads the Smart City Development of Sejong City

Korea University Sejong Campus is driving innovation across various fields to prepare for the future of society while maintaining a close partnership with Sejong City. In particular, Sejong City is developing a 'Smart City' by integrating pioneering technologies from the Fourth Industrial Revolution, increasing the demand for highly skilled professionals in advanced technology and cybersecurity.

The Importance of Smart Cities and Cybersecurity in Sejong City

Sejong City plans to establish a smart city by 2030, integrating Fourth Industrial Revolution technologies such as artificial intelligence (AI), big data, digital twin technology, and the Internet of Things (IoT). The 5-1 Living Zone (Hapgang-ri area) has been designated as a national pilot city where 21 smart city services—including smart living zones, smart demonstration parks, and autonomous shuttles—will be implemented. By connecting objects with objects and people with objects through a vast network, the smart city aims to make everyday life more convenient. However, this technological advancement also increases potential cybersecurity threats.

Sejong City is home to 47 central government agencies and 16 national research institutions, and future developments will include the establishment of the Second Presidential Office and Sejong National Assembly Building. As Sejong City solidifies its role as the administrative capital of South Korea, cybersecurity-alongside physical and spatial security—is becoming increasingly critical.

Photo: Sejong City Hall



Cooperation Between Korea University Sejong Campus and Sejong City

In October 2017, the campus and Sejong City signed a MOU on Training Cybersecurity Professionals. Through this partnership, students are provided opportunities to gain specialized knowledge and hands-on experience by participating in security monitoring internships at the Sejong City Cyber Incident Response Center. Additionally, the campus has entered into a tripartite agreement with Sejong City and Queen's University Belfast to cooperate on cybersecurity education and research. This partnership has expanded to include participation in cybersecurity technology development, post-quantum cryptography research, and the Hexa-Theon International Cybersecurity Conference.

Furthermore, the campus has achieved notable milestones in cybersecurity, including being designated as a University Specializing in Information Security and selected for the University Information Technology Research Center (ITRC) in Cybersecurity. These achievements contribute to securing pioneering cybersecurity technologies and fostering regional innovation professionals. In cooperation with Sejong City, the university plays a central role in developing Sejong's data security industry into a smart city hub and nurturing young professionals in cybersecurity.

Key Factors for Successful Cooperation

For the successful implementation of the smart city and

cybersecurity initiatives, several key elements are required. First, strengthening agreements with relevant institutions to establish a robust foundation for cybersecurity cooperation. Second, enhancing cooperation on cybersecurity R&D projects and smart city validation programs to drive technological advancements and practical outcomes. Third, actively propelling Sejong City's designation as a cybersecurity-focused special opportunity Zone, a priority project for the city. Finally, establishing a university-industry employment linkage system following Sejong's designation as an Educational Advancement Special Zone, ensuring sustainable professional development and industry growth.

Expected Outcomes from Cooperation

The cybersecurity partnership between Korea University Sejong Campus, Sejong City, Belfast City, and Queen's University Belfast will enhance cybersecurity for Sejong's smart city pilot project, implement post-quantum cryptography, and boost international competitiveness. Expanding global networks and sharing trends will strengthen cooperation, positioning both nations as cybersecurity leaders and driving sustainable urban development. This collaboration will also enhance Korea University Sejong Campus's expertise, serve as a model for international cooperation, and accelerate academic exchanges and research, fostering global talent and innovation.

Cybersecurity: The Key Pillar for Building a Smart City Korea University Sejong Campus Takes a Leading Role

Cybersecurity human resource development is essential for the successful realization of Sejong City's smart city vision. In response, Korea University Sejong Campus is accelerating efforts to cultivate cybersecurity experts to support the Digital New Deal while fostering global individuals in interdisciplinary fields such as autonomous driving and mobility engineering. To explore the latest trends in cybersecurity technology and the university's role in smart city development, we spoke with Professor Choi Dooho from the Department of AI Cyber Security.



Sejong Smart City and Cyber security

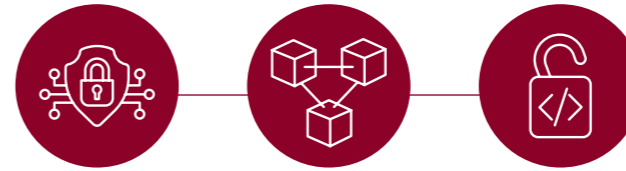
Sejong City is spearheading the National Pilot Smart City Project, serving as a testbed for Fourth Industrial Revolution technologies such as mobility, energy, and healthcare. Alongside these initiatives, Sejong is prioritizing the development of its cybersecurity sector through the establishment of a Special Cybersecurity Opportunity Zone. Given the critical role of data protection and network security, cybersecurity technologies are indispensable components of Sejong Smart City's ICT infrastructure.



We hope to establish an environment where cybersecurity initiatives and talented individuals can thrive in Sejong City.



Department of Artificial Intelligence Cyber Security
Professor Choi Dooho



Korea University Sejong Campus: A Key Player in Cyber security

Korea University Sejong Campus is playing a pivotal role in securing Sejong's smart city infrastructure through various cybersecurity initiatives.

To cultivate skilled professionals in the field, Korea University Sejong Campus co-hosts the international student cybersecurity competition 'HackTheon' annually in collaboration with Sejong City. This competition is part of the university's Information Security Specialized University Program within the Department of AI Cyber Security and provides hands-on learning experiences through diverse educational programs. In 2024, the university expanded learning opportunities by simultaneously hosting the Silicon Valley Cybersecurity Conference (SVCC) 2024 and the Korea Institute of Information Security & Cryptology (KIISC) Summer Conference. Moreover, a beginner-level competition was added to broaden student participation and enhance educational outcomes.

Korea University Sejong Campus is actively contributing to the establishment of Sejong's cybersecurity infrastructure and the growth of its cybersecurity industry. The university is involved in various projects related to Sejong's Special Opportunity Zone and Information Security Cluster, aiming to develop a local cybersecurity ecosystem. These initiatives help integrate cybersecurity industries into Sejong while ensuring that cybersecurity professionals can find employment and establish careers in the city.

In August 2023, Korea University Sejong Campus signed a strategic partnership agreement with Sejong City and Queen's University Belfast (UK) to advance cybersecurity human resource development and research. This agreement facilitates collaboration in post-quantum cryptography, cybersecurity technologies, and HackTheon Sejong. Queen's University Belfast, a prestigious member of the Russell Group, is internationally recognized for hosting the UK government-backed Centre for Secure Information Technologies (CSIT).

In April 2024, representatives from Belfast City, Queen's University Belfast, and Sejong City convened at Korea University Sejong



Campus to discuss a four-party MOU. The discussions focused on expanding the existing cooperation roadmap between Belfast and Sejong, introducing a new university-led collaboration model. The agreement is expected to foster demand-driven education, research exchanges, and industry support, ultimately contributing to the regional economy and cybersecurity ecosystem.

Looking ahead, a Belfast delegation is set to visit Korea University Sejong Campus in September 2024 to discuss cybersecurity policies and future collaborations. This visit will strengthen international research initiatives, student exchanges, and joint cybersecurity projects between the two universities.

Professor Choi stated, "We hope that these efforts will solidify Sejong City as a hub for the cybersecurity industry, ensuring that local professionals can secure stable employment and long-term careers in the city."

Strengthening the Industry-University-Research Cooperation

A strong synergy between local governments, industries, universities, and research institutions is key to advancing cybersecurity. Municipal governments attract businesses, industries apply university research, and government support ensures deployment, fostering a sustainable innovation ecosystem.

Korea University Sejong Campus is strengthening ties with Sejong City, expanding academia-industry-government collaboration, and leading smart city security. It aims to become a hub for cybersecurity education and research, nurturing future digital security experts.

A Powerful Leap into the Future: Exploring BK21 at Korea University Sejong Campus

Korea University Sejong Campus has achieved remarkable success in the 4th phase of the BK21 (Brain Korea 21) program, with an unprecedented selection of three new research groups for a regional private university. As a result, Sejong Campus now houses a total of four educational research groups and four educational research teams, securing a total of 3.105 billion won in funding, including 1.2 billion won for graduate school innovation.

The 4th Stage BK21 Project: Preparing South Korea's Global Future

The BK21 Phase 4 Project is a core government initiative aimed at fostering world-class research-oriented universities. As research-oriented universities play a key role in addressing challenges at local, national, and global levels, the government has been implementing the BK21 Phase 4 Project since 2020 to prepare for the global future.

A Hub for Innovation, Convergence, and Future-Oriented Human Resource Development

The BK21 Phase 4 Project is divided into three key directions: the Future Human Resource Development Program, which nurtures professionals needed for core future industries; the Innovation Human Resource Development Program, which fosters experts to drive innovation in emerging industries; and the Graduate School Innovation Program, which focuses on structural improvements centered around graduate school headquarters.

The Future Human Resource Development Program establishes specialized educational research teams in various fields, such as mechanical engineering, applied life sciences, computer science, history, and economics, aiming to deepen academic knowledge while simultaneously fostering practical industry connections.

The Innovation Human Resource Development Program focuses on nurturing research professionals in emerging industries, including smart cities, virtual and augmented reality, renewable energy, big data, and bio-health.

The Graduate School Innovation Program supports the establishment of a global-level research-oriented university by promoting institutional reform, graduate education improvement, research quality enhancement, and strengthening the inter-

national competitiveness of graduate schools.

Ready for Innovative Growth

Korea University Sejong Campus operates five educational research teams and three educational research groups. Starting in 2025, the campus will manage *four educational research teams and *four educational research groups, expanding research and education in areas such as artificial intelligent smart city convergence technology, new drug development using advanced testing methods, and big data-driven healthcare. Additionally, three new interdisciplinary majors will be introduced to enhance a multidisciplinary approach.

*Educational Research Teams: Smart Mobility Education Research Team, which focuses on nurturing human resource for the specialized advanced mobility industry in Sejong, Research Education Team for Omics-based Bio-health in Food Industry, IoT Data Science Research Team, and Cultural Heritage & Smart Technology Convergence Education Research Team.

*Educational Research Groups: Education and Research Center for Artificial Intelligence Smart City Convergence Technology, Sejong AI-Based Energy Materials Development Platform Research Group, the Advanced Testing Method Convergence and Innovative New Drug Development Human Resource Training Research Group, and the Data Science-Based Future Health Society Leading Human Resource Research Group.

Korea University Sejong Campus Selected for Graduate School Innovation Funding

The BK21 Phase 4 Project aims to enhance research environments and education quality while offering more opportunities to graduate students. Notably, Korea University Sejong Campus is set to receive 1.24 billion won annually in graduate school innovation funding starting in 2025, significantly expanding scholarships and research program participation opportunities.



The OMICS-Based Biohealth and Food Industry Convergence Human Resource Development Educational Research Team

At the Heart of Biohealth Innovation: The OMICS-Based Biohealth and Food Industry Convergence Human Resource Development Educational Research Team

The OMICS-Based Biohealth and Food Industry Convergence Human Resource Development Educational Research Team is a prominent group focused on fostering Human Resource to lead the biohealth and future advanced food industries. Selected as part of the BK21 project in 2020, the team is led by Professor Kim Youngjun from the Department of Food and Biotechnology, with active participation from full-time faculty members in the same department.

OMICS Human Resource Development and Educational Innovation

The team has redefined the concept of 'OMICS-type Future Creative Convergence Human Resource,' aiming to cultivate individuals with strengths in on-site engagement, multidisciplinary integration, international competitiveness, creative research, and self-motivated learning. With this vision, the team has built a bridge platform that connects the advanced biohealth industry with the food-bio industry in Sejong City, striving to produce outstanding human resource capable of adapting to shifting industry paradigms.

Proven Competitiveness

The team's capabilities were demonstrated when it was recognized as an outstanding research team during the 2023 evaluation of the Future Human Resource Development Project. Utilizing a specialized bioinformatics research infrastructure, they have established a stable virtuous cycle research model encompassing paper publication, acquisition of foundational patents, technology transfer, and industrialization. Additionally, they have conducted company-tailored research projects, achieving significant technology transfers and practical commercialization outcomes. These successes have created a bridge between research and business, serving as exemplary cases of successful collaboration.



Strengths in Leading Education and Research

The team operates interdisciplinary research and convergence programs based on OMICS and offers a core liberal arts curriculum integrating data science (DS) and artificial intelligence (AI). Through the CURT (Creative Undergraduate Research Training) program, undergraduate and graduate students collaborate on research to enhance future human resource capabilities. On the research front, the team addresses key issues for future societies, such as advanced bio, fusion bio, and upcycling, producing remarkable outcomes through collaborations with various national research projects.

To strengthen global capabilities, the team has established educational and research collaborations with institutions in countries like the United States, Canada, Switzerland, and China. They are expanding their global network through the creation of international joint laboratories and researcher exchanges, building a globalized research environment.

Through the integration of education and research, the OMICS-Based Biohealth and Food Industry Convergence Human Resource Development Educational Research Team is opening new horizons in the biohealth and advanced food industries. Moving forward, the team is expected to play a pivotal role in leading future technologies in the advanced FoodTech sector and expanding international collaborative research and exchanges.



IoT Data Science Educational Research Team

The Journey of Technology Towards the Future: IoT Data Science Team

The IoT Data Science Team is gaining attention for its advanced research and practice-oriented education. Established in 2020 within the Department of Computer and Information Science, the team nurtures future experts in applied sciences. Led by Professor Cho Minho, it includes specialists in IoT, AI, parallel algorithms, network management, machine learning, bioinformatics, biometric data, and medical AI.

Industry Innovation Through Data Utilization

The team analyzes IoT-generated data using AI to address challenges and improve industries such as manufacturing, services, biohealth, transportation, and the environment. It aims to publish internationally recognized papers and boost graduate employment at top institutions.

Continuous Growth and Innovation

Since its inception, the team has steadily increased SCIE journal publications, surpassing 50% in 2024. Graduate students grew from 34 to 54, with many securing positions at leading companies and research institutes. Alumni work at Samsung Electronics, SK Telecom, KETI, and ETRI, as well as ASML (Netherlands) and Qualcomm (USA). Notably, a team graduate became a tenure-track assistant professor

at Sangmyung University, showcasing its educational impact.

*SCIE (Science Citation Index Expanded) is a globally recognized database for major academic papers in science and technology, including renowned journals like Nature, Science, and Cell.

Building a Global Research Network and Emerging as a Leader

The team actively expands international collaborations, hosting workshops with Nanjing University of Posts and Communications and Waseda University. It has signed big data research agreements with Harvard Medical School and the National Jewish Medical and Research Center, enhancing its global standing.

Research labs work closely in AI, maximizing synergy to advance IoT data analysis. The team aims to increase SCIE top 20% journal publications to over 70% and expand international research and exchange programs, further strengthening its global presence.

Through advanced research and practice-driven education, the IoT Data Science Team is shaping the future of IoT and AI, tackling societal challenges and driving technological progress.

Joint Workshop with Nanjing University of Information Science and Technology, China



Cultural Heritage & Smart Technology Convergence Educational Research Team

The Fusion of Smart Technology and Tradition: The 'Cultural Heritage & Smart Technology Convergence Education Research Team'

The Cultural Heritage & Smart Technology Convergence Education Research Team is part of the future human resource cultivation program in the humanities and social sciences. Since 2020, the team has conducted research based at the Graduate School's Department of Archaeology and Art History and the affiliated Cultural Heritage Convergence Research Institute. Led by Professor Bang Byeongseon from the Department of Archaeology and Art History, the team consists of six professors specializing in archaeology and art history, emerging researchers, and graduate students pursuing master's and doctoral degrees. Together, they aim to create new value by connecting the past and the future, while fostering globally competitive human resource.

Academic Innovation Through Smart Technology

The team integrates smart technology with traditional research in archaeology and art history, introducing a new academic approach. By utilizing scientific analysis and IT technology, they go beyond conventional research methods, pursuing practical and creative studies. They also focus on establishing an internationalized research and education environment to nurture specialized human resources required by future societies.

Practical Programs Bridging Education and Research

To strengthen the link between research and education, the team operates various programs. These include courses on cultural heritage and big data, digital content, and policy and social issues. They also regularly host special lectures on smart technologies such as 3D modeling and GIS applications.

Additionally, the team provides graduate students with opportunities to build global competencies through short-term overseas training and international academic conferences. In collaboration with Sejong City, they conduct lectures and experiential programs for the local community, contributing to solving regional issues through cultural heritage initiatives.

Strengthening Global Academic Standing

The Department of Archaeology and Art History at Korea University Sejong Campus, to which the team belongs, ranked within the top 50 globally in the QS World University Rankings for archaeology in 2020 and achieved the second position in South Korea. Through convergence research utilizing smart technologies, the team continues to enhance its academic influence. Over 60% of its graduates secure positions at national and private research institutions, demonstrating its effectiveness in producing practical human resource.

Looking ahead, the team plans to strengthen undergraduate-to-graduate linked activities, enhance research quality, invite renowned scholars, and host global conferences to foster a world-class research environment. They also aim to maintain a high QS ranking and deepen community ties through career programs, special lectures, and digital content courses.

The Cultural Heritage & Smart Technology Convergence Education Research Team is innovating by blending smart technology with tradition. By cultivating global talent and contributing locally, they offer a new model bridging research and practice, advancing steadily into the future.

2023 National Heritage Digital Content Competition Awards Ceremony





The AI Smart City Convergence Technology Education Research Unit

The Future Where People and Technology Meet: The AI Smart City Convergence Technology Education and Research Unit

The AI Smart City Convergence Technology Education and Research Unit was launched in 2020 as part of the innovative human resource cultivation program for new industries. It began with 25 full-time professors from four departments—Department of Electronics and Information Engineering, Department of Biotechnology & Bioinformatics, Department of Environmental Systems Engineering, and Department of AI Cyber Security—joining forces to establish a specialized major in AI Convergence Technology and advance research and human resource development in smart cities.

Human-Centered Smart City Industries

The unit aims to establish carbon-neutral, human-centered smart city industries by focusing on three core AI convergence technologies: AI spatial information convergence, low-carbon eco-care water technology, and bio-healthcare technology. By employing the Living Lab methodology, it seeks to develop practical, sustainable technologies that will foster professional human resource development and generate innovative research outcomes.

Having successfully led the program for the past five years, the unit will continue its journey under the BK21 program from 2025, restructured with 15 professors and led by Professor Kim Hwi from the Department of Electronics and Information Engineering.

44 Master's and Doctoral Graduates, 379 SCI-Level Papers Published

Over the past five years, the unit has produced 44 graduates with master's and doctoral degrees and published 379 SCI-level papers. It has also achieved 97 domestic and international patent registrations and completed 16 technology transfers, further validating the value of its research. The unit has secured research funding totaling 25.8 billion won from central government and international organizations and 3.1 billion won from industrial partners.

Notably, five participating professors have successfully launched startups related to smart cities, bridging the gap between research and industry. The unit also hosts the annual Sejong-Seoul Joint Smart City Workshop to facilitate the sharing of research achievements and the discovery of new ideas.



Department of Electronic and Information Engineering
Professor Kim Hwi

Developing Core Human Resource for the Global Smart City Industry

Moving forward, the unit plans to strengthen its convergence technology-focused major and extracurricular programs while expanding global research collaborations and research and business networks.

By presenting a new approach that surpasses traditional technology-focused development, the unit is working toward sustainability and carbon neutrality, addressing climate change, and shaping the future direction of urban development.

Education and Research Center for Artificial Intelligence Smart City Convergence Technology contributes to reducing digital information disparities, and improve the universalization of public services. Ultimately, it is expected to enhance citizens' quality of life by improving access to healthcare and public health services.



Sejong AI-Based Energy Materials Development Platform Education Research Unit

A Hub of Energy Innovation and Convergence: The 'Sejong AI-Based Energy Materials Development Platform Education and Research Unit'

The Sejong AI-Based Energy Materials Development Platform Education and Research Unit is a newly selected program under the 2025 BK21 initiative for fostering human resource in new industries. Led by Professor Park Junghee from the Department of Advanced Materials Chemistry, the unit includes faculty members from the same department and the Department of Electronics and Information Engineering, along with graduate students.

AI and Smart Energy

Modern society faces numerous environmental challenges, including the climate crisis. To address these issues, the unit aims to develop specialized human resource in AI-based, region-specific smart energy centered in Sejong City and is building the PEAK platform (Pioneering, Energy, AI-based education and research, and Knowledge integration), which integrates global research and education. Its key research areas include smart energy conversion technologies using ultra-precise molecular design, the development of smart energy systems utilizing AI, and research on smart energy materials using a broadband analytical platform.

53-69% of Research Papers Published in Top 10% Journals

The unit secures annual research funding exceeding 500 million won and continues to produce outstanding research results. Approximately 53–69% of its papers have been published in journals within the top 10% of their respective fields, and it has achieved an impressive average

*H-index of 50 and a citation impact factor of 13.1.

The unit also contributes to regional industrial growth through various research and business collaboration projects, including the development of water electrolysis and CO₂ fuel conversion technologies, commercialization of AI-based smart farming technologies, and solutions for display and battery challenges using big data. Notably, it works closely with industries and research institutions in Sejong City and the Chungcheong region, driving the activation of energy-related new industries.

*The H-index measures a researcher's productivity and citation impact. An H-index of 50 indicates that at least 50 of the researcher's published papers have been cited 50 times or more.

Cultivating Human Resources to Lead a Sustainable Energy Future

Aligned with Sejong City's carbon-neutral energy policies, the unit focuses on developing AI-based energy optimization technologies and advanced materials. These efforts aim to produce tangible outcomes in fields such as efficient renewable energy utilization, support for AI data centers, and smart carbon sink management.



Department of New Materials Chemistry
Professor Park Chunghee

Starting in 2025, the unit plans to launch a Smart Energy Convergence graduate program to nurture experts who can lead the sustainable energy future of Sejong City and South Korea. The unit will also actively recruit AI specialists and emerging researchers in energy materials while hiring research and business collaboration professors to enhance practical education and strengthen regional partnerships.

The Sejong AI-Based Energy Materials Development Platform Education and Research Unit aims to create an energy-focused new industry ecosystem centered in Sejong City while expanding its global research network. Through these efforts, it seeks to enhance both regional and international competitiveness, positioning itself as a key contributor to the sustainable development of Sejong City and South Korea.



The Advanced Testing Methods Convergence Education Research Unit for Innovative Medicine Development

A Leap toward Global Medicine Development: The Advanced Testing Methods Convergence Education and Research Unit

The Advanced Testing Methods Convergence Education and Research Unit for Innovative Medicine Development has been selected for the 2025 BK21 Education and Research Units, fostering talent in new industries. Led by Professor Byun Youngjoo from the Department of Pharmacy, the unit includes faculty from Pharmacy and Accelerator Science, along with graduate students.

Advancing Global Medicine with Cutting-Edge Technologies

The unit aims to streamline drug development by reducing time and cost while maximizing efficiency. It leverages big data, high-quality analytical methods, and target molecule analysis while promoting alternatives to animal testing. By integrating pharmacy and accelerator science, it trains experts with specialized technological skills.

The unit has shown remarkable achievements even before BK21 selection. Over five years, 20% of its papers appeared in top 10% Impact Factor (IF) journals, and 45% in top 20%. Faculty secure over 400 million won per professor annually, with some receiving Science and Technology Excellence Paper Awards. The unit also collaborates with pharmaceutical companies and biotech ventures, creating industry synergies.

Department of Pharmacy Professor Byun Youngjoo



From Regional Growth to Global Medicine Innovation

The unit aims to lead the biohealth industry by fostering multidisciplinary talent in advanced testing methods. It contributes to regional bio-cluster development and economic growth in Chungcheong. By creating low-cost, high-efficiency drug technologies, it seeks to enhance public health and quality of life.

Korea's First Graduate Program in Innovative Medicine Development

Starting in 2025, the unit will launch Korea's first graduate program in Innovative Medicine Development Convergence, merging pharmacy and accelerator science. This program will integrate education and research, fostering experts with industry-ready skills.

Through pioneering research and education, the unit is set to redefine medicine development, shaping the future of bio health and advanced testing methods.



Education Research Unit for Data Science-Based Future Healthcare Leaders

Connecting Data and Biomedical Science, 'Educational Research Group for Data Science-Based Future Healthcare Leaders'

The Educational Research Group for Data Science-Based Future Healthcare Leaders is a newly selected BK21 educational research project for 2025, aimed at nurturing innovative human resources in emerging industries. Led by Professor Choi Boseung from the Division of Big Data Science, the group includes full-time professors from four departments: the Division of Big Data Science, Data Computational Sciences, Department of Pharmacy, and Department of Biotechnology & Bioinformatics.

Solving Biomedical Problems Using Big Data and Data Science

The research group focuses on addressing issues in the biomedical field through big data and data science. By leveraging an interdisciplinary approach that integrates pharmacy, life sciences, statistics, and computer science, the group pursues data science-based healthcare innovations for a sustainable future. Their goals include developing data models and algorithms, training experts to drive breakthroughs in drug discovery and treatments, and fostering international collaborative research, with the ultimate aim of ranking among the world's top 50 universities.

Contributing to Academic, International, and Social Value

The group seeks to create multidimensional value across academic, international, and social domains. Academically, it aims to solve challenges in emerging industries through the convergence of data science and biomedical research, pioneering new research paradigms and advancing scholarly fields. Internationally, it plans to strengthen its global standing by building a robust network, facilitating joint research and student exchanges, and disseminating research outcomes worldwide. Socially, it intends to collaborate with Sejong City's biohealth industry to drive regional development, while also enhancing domestic and international research and business partnerships to establish a foundation for emerging industries.

Launching the Biomedical-Data Science Convergence Program in 2025

Starting in 2025, the group will launch a new Biomedical-Data Science Convergence Program to commence full-scale research and educational activities. This interdisciplinary program will provide integrated education and attract outstanding human resources through undergraduate-graduate linked courses and undergraduate research programs. The program will



Department of Big Data Science Professor Choi Boseung

also strengthen global research capabilities and networks by collaborating with institutions such as the University of Texas, Ohio State University, and Northeastern University London Campus to offer international exchange programs and joint degree opportunities.

The Educational Research Group for Data Science-Based Future Healthcare Leaders aims to drive innovation in the biomedical field through the application of data science, fostering globally competitive human resources. By contributing to the creation of new industries and regional development, the group aspires to become a world-class institution for data science-driven healthcare research and education by 2030.

Korea University Sejong Campus Selected for the Software (SW)-Oriented University Project

Advancing as a Leading Institution for SW·AI Convergence Education to Drive National Digital Innovation




Korea University Sejong Campus has been selected for the 2024 Software (SW)-Oriented University Project under the general track, securing up to 15 billion won in government funding over a maximum period of eight years. The SW-Oriented University aims to innovate university education through a software-centered curriculum, fostering highly skilled SW professionals, strengthening software competitiveness, and promoting the widespread value of software innovation.

The rapid expansion of the digital market, driven by the Fourth Industrial Revolution, highlights the need for skilled professionals in digital innovation. South Korea's ICT market is projected to grow 3.7% in 2024, reaching 39.48 trillion won.

Korea University Sejong Campus aims to lead digital innovation in Sejong City by nurturing SW professionals and promoting SW values. To achieve this, the university will enhance foundational SW education, strengthen SW-AI convergence programs, and implement standardized curricula in emerging SW fields.

The university's five key strategies include strengthening SW education infrastructure, advancing SW-AI expertise, implementing DX convergence education, bridging the skill gap through research-business collaboration, and promoting digital literacy.

These initiatives will equip students with cutting-edge expertise while establishing an advanced digital education and research infrastructure. As digital specialists, graduates will contribute to industry growth and national technological advancement.

Being selected as a Software-Centered University is more than expanding infrastructure—it marks a pivotal role in national digital innovation, fostering future IT professionals, and enhancing South Korea's global competitiveness. 

Selected as a Sejong City Overseas Scholarship Recipient: Meet Global Business Talented Student, Kim Kihoon

Kim Kihoon from Korea University Sejong Campus majoring in Sport Business has been selected as a 2024 Sejong City Overseas Scholarship Recipient. This program, jointly operated by Sejong City and the Sejong Human resources & Lifelong Education Development Foundation, aims to foster local individuals into global leaders by supporting overseas education opportunities. As a recipient, Kim will receive up to 50 million won per year for a maximum of two years to support his overseas studies.



Why do you think you were selected as a recipient of the Sejong City Overseas Scholarship?

I believe my unique background as a former baseball player and my English proficiency played a key role in my selection. Until my sophomore year in university, I pursued a professional baseball career. However, in 2019, a shoulder injury forced me to retire from the sport. After that, I decided to become a sports marketer and administrator. Since 2020, I have been balancing my studies with extracurricular activities while preparing for graduate school in the United States.

Can you briefly introduce the university you will be attending and what you plan to study?

Texas A&M University (TAMU) is a public research university located in College Station, Texas. Established in 1876, it has a long history and strong traditions. As of 2022, it is the largest university in the United States by student enrollment and is well-known for producing global leaders. Building on my undergraduate knowledge of sports business, I plan to study the latest trends in the sports industry and gain hands-on experience through various internships and practical training opportunities.


What are your goals for studying abroad?

I have three major goals for my time abroad: research the academic and

athletic balance system used by American student-athletes, gain internship experience in Major League Baseball (MLB), become a role model for Korean student-athletes and juniors in the Division of Global Sport Studies at Korea University Sejong Campus. Ultimately, I aim to develop a broad perspective as a sports industry expert and contribute to the development of the South Korean sports industry.

After completing my studies, I hope to gain experience working in Major League Baseball (MLB) or with a professional team. Additionally, I aspire to work for the World Baseball Softball Confederation (WBSC) to learn about the operations of the American sports industry and find ways to apply this knowledge to South Korea's baseball industry.

Do you have any advice for your juniors?

I would like to share my favorite quote: "Consistency is key." Great achievements do not happen overnight. If you keep making small progress step by step, you will eventually see yourself accomplishing something great. I also encourage students to engage in various extracurricular activities to broaden their horizons and take full advantage of new opportunities that come their way. 

Professor Ahn Yongjin Wins APSA Best Paper Award

Professor Ahn Yongjin of the Faculty of Public Administration has been honored with the Best Paper Award at the 2024 American Political Science Association (APSA) Annual Meeting, one of the most prestigious conferences in the field of political science. This remarkable achievement further enhances the global academic standing of Korea University Sejong Campus.



APSA Best Paper Award

APSA, a leading political science organization, advances research, education, and public understanding of governance. Its annual conference gathers scholars worldwide to exchange insights, with outstanding papers recognized across subfields. Professor Ahn won the Best Paper Award in the Public Administration Section, highlighting his research's impact. His paper, "Assessing the Effects of Government Shutdowns on the Inflow and Outflow Dynamics of the United States Federal Workforce," analyzes how shutdowns affect the U.S. public sector labor market.

Government Shutdowns and Their Impact

"Political failures lead to administrative failures, directly affecting citizens' lives." In the U.S., government shutdowns occur when Congress and the President fail to pass a budget, suspending federal operations. These events lead to furloughs, unpaid leave, and reduced job satisfaction, causing talent to shift from the public to the private sector.

Professor Ahn's study provides an empirical analysis of shutdowns' effects on public sector workforce dynamics. He notes broader governance challenges: "Shutdowns are unique to the U.S., but similar issues arise in other presidential systems, including South Korea. Political polarization, legislative gridlock, and executive unilateralism weaken governance."

Key Implications of the Study

A stable, competent civil service is vital to democracy. However, political failures undermine institutional checks and neutrality, leading to policy breakdowns. "When poor political decisions repeatedly harm diligent civil servants, public sector capacity declines. My study empirically shows that strong governance is essential to retaining and attracting skilled professionals in government."

Korea University Sejong Campus Achieves an 83.3% Employment Retention Rate



Korea University Sejong Campus has established itself as a leading institution in employment stability and job satisfaction, achieving an 83.3% employment retention rate among its graduates. According to the 2023 public disclosure report by the Ministry of Education, the Sejong Campus recorded an employment retention rate of 83.3%, significantly reflecting the quality of jobs and career satisfaction of its graduates.

The employment retention rate measures the percentage of graduates who remain employed for a specific period after employment, unlike the initial employment rate. This indicator is crucial in assessing job quality and satisfaction. The Sejong Campus outperformed the national average of 81.0% by 2.8 percentage points, highlighting its exceptional career support system and tailored workforce development programs. According to the 2023 Ministry of Education report, the campus's overall employment rate has shown steady growth, increasing from 59.0% in 2020 to 66.6% in 2021 and further rising to 67.4% in 2022. This consistent improvement demonstrates the university's commitment to career development and employment support for its students. To enhance career readiness, the Sejong Campus operates various employment support programs. Six specialized courses by academic year and major to provide practical job preparation, dedicated career consultants for each department to offer in-depth career counseling, customized career and employment programs are structured to engage students from freshman year to graduation, and annual needs assessments to continuously improve programs, ensuring graduates adapt well to their jobs and maintain high job satisfaction. The university collaborates with industries to provide students with hands-on experience and practical learning. Internships and industry-linked programs better equip graduates for the workforce, fostering long-term career growth and job satisfaction. By emphasizing career development and industry partnerships, the campus produces highly skilled professionals who excel in their fields, ensuring sustained employment and advancement.

Professor Hwang Hanjeong Develops 'Dynamic Binaural Beat' Technology to Improve Insomnia and Enhance Sleep Efficiency



Professor Hwang Hanjeong from the Department of Electronics and Information Engineering, in collaboration with Professors Yoon Changho and Lee Woojin from the Neurology Department at Seoul National University Bundang Hospital, has announced that the 'Dynamic Binaural Beat (DBB)' technology can improve insomnia and enhance sleep efficiency. The DBB technology works by sending different frequencies to each ear, inducing the formation of specific brainwaves.


According to a recent large-scale survey, 60% of adults in South Korea experience chronic sleep disturbances, with half of them reporting symptoms of insomnia. This means that approximately one-third of the adult population (around 36 million people) suffer from insomnia. However, only about 720,000 people sought medical treatment for insomnia in 2022 (according to the Health Insurance Review and Assessment Service), indicating that awareness of insomnia, difficulties in visiting medical facilities, and limitations of existing treatments contribute to the low treatment rates.

To provide a sustainable, home-based solution for insomnia, the research team conducted a study using Dynamic Binaural Beat (DBB) technology. Healthy adults participated in the experiment, undergoing two consecutive nights of polysomnography (sleep studies). Participants were randomly assigned and exposed to DBB at different sleep stages: before sleep onset, immediately after falling asleep, and

during the transition from REM to non-REM sleep. The researchers then analyzed changes in biological indicators.

The results showed that Dynamic Binaural Beat significantly improved sleep quality: sleep latency (the time taken to fall asleep) was reduced by 51%, overall sleep efficiency increased by 3.8%, and low-frequency heart rate variability (a marker of sympathetic nervous system activity) decreased by 25%, indicating a more relaxed physiological state. As hyperactivity of the sympathetic nervous system is a major cause of insomnia, this reduction suggests that DBB promotes a stable, sleep-friendly state.

Unlike static binaural beats, which provide only limited sleep regulation effects, DBB enhances these effects while remaining comfortable for users. Participants in the study did not report any discomfort from the DBB exposure.

This research presents a new approach to improving sleep quality by directly regulating the mechanisms that cause insomnia, making it an effective alternative to traditional medical treatments. Unlike conventional healthcare systems that struggle to provide continuous and effective insomnia treatment, DBB offers a practical, home-based solution. Recognizing its significance, this study has been published in 'Sleep', a prestigious journal in the field of sleep research by the American Academy of Sleep Medicine. 

Professor Ahn Joonseong Develops the World's First Metal/Ceramic Nanoribbon Yarn for Smart Textiles




Professor Ahn Joonseong from the Department of Electro-Mechanical Systems Engineering and his research team have developed the world's first metal/ceramic nanoribbon yarn manufacturing technology for smart textiles. Smart textiles integrate digital information technology with traditional fabrics, allowing for applications across various industries. This breakthrough research introduces a novel mass-production technique for metal/ceramic nanoribbon fibers, significantly enhancing the performance and application range of smart textiles. Traditional smart textiles have primarily relied on organic or carbon-based functional nanofibers, or by coating fibers with conductive nanomaterials. However, this study introduces a fiber composed of metal/ceramic nanoribbons, utilizing inorganic materials with superior durability and exceptional electronic performance compared to existing smart textile materials.

A key innovation in this research is the use of nanoimprint lithography and plasma etching processes to fabricate nanoribbons, which are then twisted into yarn, enabling large-scale production.

The mass-production technology for metal/ceramic nanoribbon yarn paves the way for manufacturing high-performance smart textiles using various inorganic materials. These advanced fibers can be applied in medical, fashion, military, and healthcare industries, while also presenting new possibilities for integrating

Internet of Things (IoT) technology into textiles. Additionally, the fibers have great potential for green technology applications, such as high-performance gas sensors for detecting greenhouse gases, and green energy components.

Professor Ahn's research team plans to further develop practical applications for various industries, focusing on medical smart textiles, military smart textiles, and healthcare smart textiles. The team will continue enhancing the performance of nanoribbon yarns and expanding research on nanoribbon fibers made from diverse inorganic materials. This ongoing work aims to further improve the functionality and expand the applications of smart textiles.

This groundbreaking research lays the foundation for a significant expansion of smart textile applications. The metal/ceramic-based nanoribbon fibers developed in this study overcome the limitations of organic fiber-based materials, providing high-performance electronic functionalities. Moreover, these fibers are both flexible and exhibit superior electrical properties, making them suitable for integration into various advanced technologies. They are expected to be widely utilized in high-performance gas sensors, water electrolysis systems, and triboelectric nanogenerators for green energy applications. 

Professor Kim Hwi Selected for the 'Alchemist Project' Supervised by the Ministry of Trade, Industry and Energy



Professor Kim Hwi's research team has bridged the gap between virtual and real environments through the AR Near Eye Display system implemented in the 'Alchemist Project'



Phase 3 of the Industrial Technology Alchemist Project

Professor Kim Hwi's research team from the Department of Electronics and Information Engineering has been selected as the final participant in the 'Phase 3 of the Industrial Technology Alchemist Project.' This project is supervised by the Ministry of Trade, Industry, and Energy and implemented by the Korea Institute for Advancement of Technology. Over the next five years, the research team will receive a total of 20 billion won in government R&D funding.

The Alchemist Project aims to create new markets and industrial domains through the development of challenging and innovative core technologies with significant economic and social impact. Notably, it allows for failure during the research process to achieve ultra-high difficulty goals.

Achievements and Future Prospects of Professor Kim Hwi's Research Team

Professor Kim's research team is undertaking the project 'Adaptive Visual Transition Technology for Hyper-Boundary Infinite Metaverse' under the theme of 'Ultra-Realistic Metaverse Visualization.' The team aims to achieve a groundbreaking near-field holographic image synthesis technology that has not yet been realized globally. Their research proposes curved metasurface optical waveguide technology and AI-enhanced augmented reality image synthesis technology for the metaverse. Recognized for its originality, innovation, and impact, the research team was selected after a two-year preliminary competition.

Currently, AR (Augmented Reality) devices often cause dizziness or visual discomfort when users view real-world scenes. However, the 'Adaptive Visual Transition Technology for Converged Realism' can naturally connect visual information between virtual and real environments. Through this project, the team aims to implement an AR Near Eye Display system that integrates AR and reality seamlessly using curved optical waveguides with a wide field of view, achieving a more immersive mixed reality experience.

In June of this year, in collaboration with Professor Lee Hongseok from the Department of Electrical Engineering at Pukyong National University, the research team published results on high-efficiency three-dimensional holographic displays. This study introduced a novel approach using single-panel complex optical modulation macro-pixel design technology, which drastically reduces noise issues in holographic displays while significantly improving signal efficiency.

The research team proposed a new structure using Three-Phase

Covalent Macro Pixel (3PCMP) technology, which enhances signal efficiency by three times compared to existing holographic displays while reducing optical noise by dozens of times. Implementing a single-panel SLM with 3PCMP technology, they validated its performance through experiments. The 3PCMP-based display demonstrated remarkably high optical efficiency and low noise, proving its superiority over conventional technologies.


This technology is expected to have broad applications in various fields, including LiDAR, medical imaging, optical communication, and quantum information processing. For instance, in LiDAR systems, it enables high-precision 3D imaging, while in the medical field, it facilitates more accurate image-based diagnostics. Moreover, the benefits of high signal efficiency and low noise can be leveraged in optical communication and quantum information processing.

To accelerate the commercialization of 3PCMP technology, the research team plans to introduce automated alignment systems and high-resolution panels. Additionally, they aim to expand the field of view using multi-vision tiling technology, offering a more realistic 3D imaging experience.

Blurring the Boundary Between Reality and Virtuality

This research has opened new possibilities for next-generation holographic display technology and is expected to be widely utilized across various industries. For example, in optics, artificial intelligence, and nanoconvergence technology, new materials, devices, systems, and algorithms are likely to emerge as additional advancements. Furthermore, if display and near-field interaction technologies evolve to provide ultra-realistic stereoscopic images close to the human visual perception limit, numerous social services could be created.

One major challenge in immersive systems is the delay in response time compared to user movement and motion parallax, which disrupts the sense of realism. To address this, the project will also research low-latency, high-bandwidth network technologies and infrastructure to support display and interaction technologies.

By resolving these technological issues, spatial limitations in displays can be eliminated, enabling real-time 3D holographic displays from any location in a three-dimensional space. This breakthrough is expected to enable real-time long-distance holographic communication, effectively expanding users' spatial experiences. Ultimately, this research envisions a future society where our lives are no longer constrained by time and space. 

Professor Choi Boseung Proposes a Novel Approach to Overcome the Limitations of Existing Epidemic Spread Models



A New Epidemic Spread Model


Professor Choi Boseung of the Department of Big Data Science at Korea University Sejong Campus, in collaboration with Professor Lee Hyojeong from Kyungpook National University, Professor Kim Jaekyung from KAIST, and Senior Researcher Choi Sunhwa from the National Institute for Mathematical Sciences, has developed a new mathematical model that can predict the spread of infectious diseases more accurately. This research is expected to help public health experts formulate effective disease prevention strategies by providing a more precise estimation of the reproduction number (R-value). The study was published in the prestigious international journal Nature Communications (Impact Factor 14.7).

Epidemic Spread Models and Disease Control

Disease prevention efforts play a crucial role in minimizing damage and protecting public health when an infectious disease emerges, while virus structure analysis and vaccine development take place. Mathematical models are essential for predicting the spread of infections and allocating medical resources efficiently.

Most traditional epidemic models are based on Markov systems, which only reflect the current state of an outbreak. However, in real-world scenarios, past conditions such as the probability of an infected individual spreading the virus increases over time after contact with another person also influence disease transmission. To address this limitation, the research team developed a new non-Markovian system-based model. By incorporating delay differential equations instead of ordinary differential equations, the model achieves a more accurate prediction of disease spread.

Enhancing Epidemic Policies with Precise R-Value Estimation

The research team validated the performance of the new model using COVID-19 case data from Seoul in 2020. Unlike previous models, which overestimated the R-value, the new model accurately estimated a value that aligned with actual epidemiological findings. A key strength of this model is its ability to produce precise results without requiring additional epidemiological data. To further enhance accessibility, the team developed an open-source program called IONISE, allowing researchers and public health professionals to freely utilize the model. This tool is expected to provide a deeper understanding of disease transmission patterns and aid in the development of more effective containment strategies. The research is expected to serve as a valuable foundation for designing more sophisticated public health policies, ultimately contributing to better disease prevention and control strategies worldwide. 

Pioneering a New Era in Harmful Gas Detection Technology

Professor Wee Kyungryang of the Department of Advanced Materials Chemistry, along with a research team from the Optoelectronic Advanced Materials Research Laboratory, has successfully developed the world's first technology that modifies the properties of vaporochromic materials by efficiently controlling organic porous molecular arrangements. This breakthrough opens new possibilities for harmful gas detection technology and is expected to be widely utilized in environmental monitoring and industrial applications.

Challenges in Utilizing Organic Porous Molecular Arrangements


Vaporochromism refers to the phenomenon where a material changes color or luminescence in response to specific gases or vapors. Smart materials utilizing this property have various potential applications, particularly in hazardous gas detection. Organic porous molecular arrangements are considered high-performance vaporochromic materials due to their structural flexibility. However, the challenges of high-density packing and disordered orientation have made precise control of these structures extremely difficult.

To address this issue, the research team designed Donor-Acceptor-Donor molecular building blocks and proposed a strategy for molecular arrangement control using positional isomers. The findings revealed that different positional isomers resulted in Z-type, quasi-Z-type, and linear structures, each forming distinct molecular arrangements and pore volumes, ultimately altering the final microstructure.

A Novel Approach to High-Performance Vaporochromic Materials

The controlled molecular arrangements significantly influenced vaporochromic properties. The Z-type building block, which formed a loose arrangement, exhibited highly sensitive vapor fluorescence color change, and the linear building block, which formed a dense arrangement, selectively responded to aromatic hydrocarbons. By establishing the correlation between molecular arrangement and vaporochromic properties, this study introduces a groundbreaking methodology for developing high-performance vaporochromic materials.

Professor Wee stated, "We have developed a smart material that enables easy detection of harmful gases through simple color changes, overcoming the limitations of existing detection technologies. This technology has broad potential applications across various advanced scientific fields."

Supported by the National Research Foundation of Korea's Mid-Career Research Program, this study has been recognized for its significance, being selected as the cover paper for the October issue of Advanced Optical Materials, an esteemed international journal in optics and materials science. 

Professor Wee Kyungryang Develops the World's First Vaporochromic Material Performance Controlling Technology



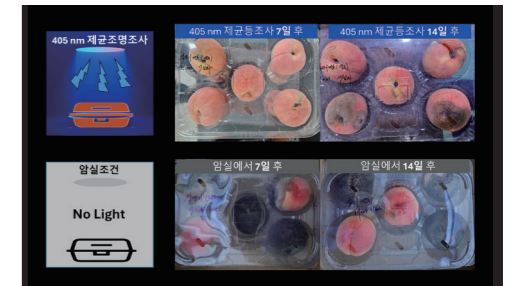
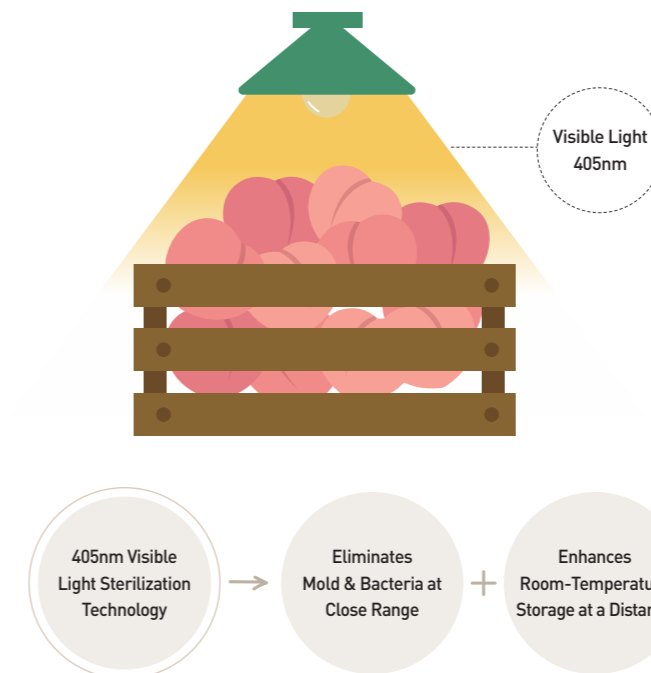
Professor Son Hojin Develops Eco-Friendly Agricultural Storage Technology Utilizing Visible Light Sterilization



Professor Son Hojin and Professor Kim Sungkwan from the Department of Advanced Materials Chemistry at Korea University Sejong Campus, in collaboration with Professor Yuk Hyunkyun from the Department of Food Engineering at Chung-Ang University, have developed an eco-friendly agricultural storage technology utilizing 405nm wavelength visible light sterilization technology. This breakthrough significantly enhances the shelf life of peaches, allowing for effective preservation using only light, without any chemical treatment.

Peaches, a summer fruit, are highly susceptible to quality degradation during low-temperature storage and rapid spoilage during distribution, often forcing farmers to limit exports or sell exclusively on the same day. To address this issue, the research team adopted 405nm visible light and photocatalytic technology, enabling peach storage at room temperature while maintaining freshness. This innovation allows farmers to extend the storage period of peaches without the need for costly refrigeration facilities.

Compared to conventional ultraviolet (UV) sterilization technologies, 405nm visible light sterilization offers superior applicability to large areas, safety for human exposure, cost-effectiveness, and durability, making it well-suited for use in farm storage facilities and processing centers. In close-range sterilization, the sterilization lamp effectively eliminates mold and bacteria. Meanwhile, in long-range sterilization, the photocatalytic system, activated by the light source, provides surface-level sterilization, significantly improving room-temperature storage capabilities.



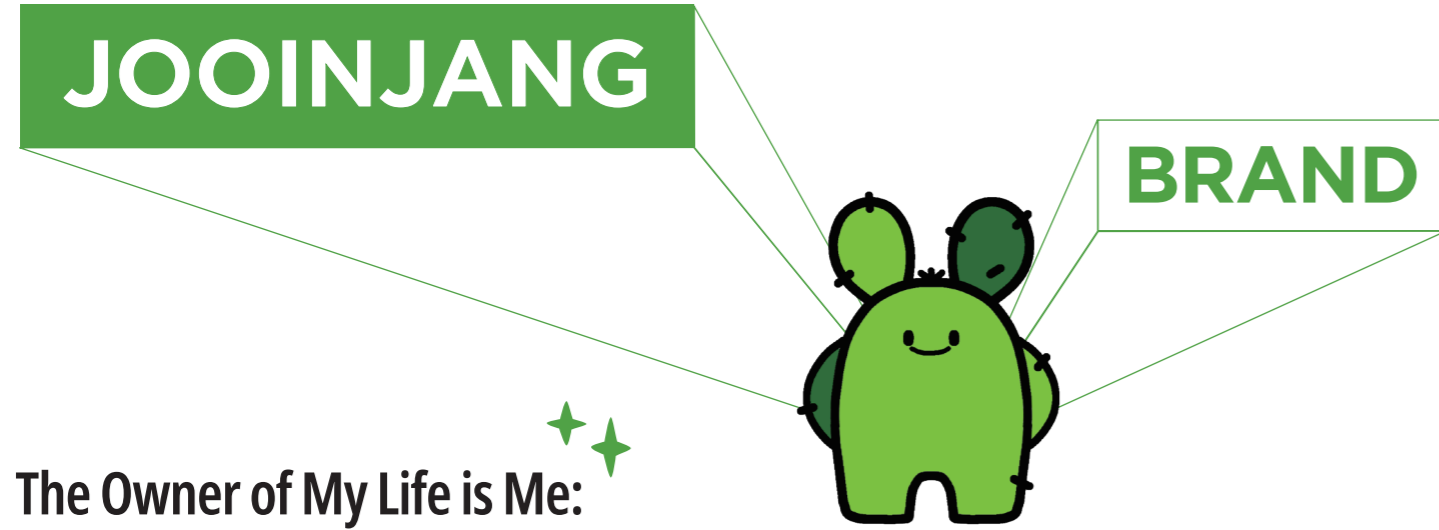
Significant Reduction in the Spread of Mold and Bacteria in an Environment with 405nm Sterilization Lighting Installed

The research team conducted on-site trials at six farms, where results showed a significant reduction in the spread of mold and bacteria in environments equipped with 405nm sterilization lighting. The nutritional integrity of peaches remained intact while maintaining their freshness, proving the effectiveness of the technology. Particularly a farmer in Yeongcheon, Gyeongsangbuk-do, reported a notable decrease in mold odor and visible mold formation after installing the sterilization lighting system, providing positive feedback on its impact.

Professor Son stated, "This technology sets a new standard for agricultural storage and distribution. By extending the freshness of produce, it is expected to increase farm income and enhance distribution efficiency."

To further ensure reliability, the research team plans to conduct long-term testing and implement periodic maintenance for the sustained effectiveness of the photocatalytic system. Additionally, they aim to expand technology adoption through partnerships with the Nonghyup Distribution Center and international companies, while filing patents to protect the innovation.

This research was jointly conducted by Korea University and Chung-Ang University and received 1.4 billion won in funding over eight months under the 2024 Agricultural New Technology Research and Business Cooperation Support Program, administered by the Korea Agricultural Technology Promotion Agency.



The Owner of My Life is Me: The Founding of JOOINJANG

Jang Seonkyu, a student majoring in Digital Business, founded the character brand JOOINJANG (Cactusun), inspired by cacti. With its unique and captivating designs, JOOINJANG has gained significant attention at various exhibitions, including the Seoul Illustration Fair and Seoul Stationery Fair. Additionally, the brand has successfully entered major department stores such as Hyundai Department Store and Shinsegae, as well as various boutique shops nationwide, receiving much love from customers.



Seunghwan from the Technology Business Team. Although he was not directly in charge of startups, he provided us with valuable information and connected us with Professor Yoo Jaehyun and the Entrepreneurship Education Center, which helped us officially begin our business. Through the startup club program, we received financial support for production and marketing as well as assistance with legal procedures. The patent attorney introduced by the center also helped us successfully register our trademark and design rights.

What makes JOOINJANG (Cactusun) unique and competitive?

Our biggest competitiveness is that our character is based on a cactus, an uncommon motif in the character market. Even though the character merchandise market is highly saturated, this uniqueness has helped us stand out. Additionally, we create illustrations and products in diverse styles, allowing people of all ages and genders to enjoy our brand, which has expanded our target audience.

JOOINJANG has participated in various exhibitions and entered stores nationwide, including major department stores like Hyundai and Shinsegae. How do you feel about this achievement? When we first started, we had many concerns about how to connect with other business owners and how to promote our brand effectively. Through exhibitions and store partnerships, we have been able to share the value of our brand with a wider audience, which is very fulfilling. Moving forward, we want to continue introducing more people to the charm of JOOINJANG.

What are your future plans and goals?

We plan to accelerate the branding of JOOINJANG. Currently, we are working on expanding beyond merchandise to include clothing, daily necessities, and stickers (emojis). Our ultimate goal is to create a self-sustaining system where we allocate part of our revenue to support young people in their teens and twenties who face financial barriers to leading independent lives. By doing so, we hope to empower more people to take control of their own lives.

The story of JOOINJANG goes beyond just launching a brand—it represents determination, passion, and the spirit of giving back. Like a cactus that thrives in harsh environments, and true to the slogan "The Owner of My Life Is Me," we hope that everyone becomes the true protagonist of their own life.

Can you introduce the character brand JOOINJANG?

JOOINJANG-Cactusun is a brand that I co-founded with my older sister. We create and sell a variety of products featuring our unique cactus character, built around the slogan, "The Owner of My Life Is Me." This message symbolizes how, like a cactus thriving in a barren desert, everyone should live life authentically, even in their own challenging environments. Additionally, our brand was selected as a campaign supporter for the ChildFund Korea. Through this, we aim to promote the happiness and growth of young people and spread positive influence.

What inspired you to pursue entrepreneurship?

My sister and I often talked about starting a business together. When I entered university, I had more time to think about my future and career, which strengthened my desire to try entrepreneurship while I was still young. My sister had exceptional talent in character design and product creation, while I had knowledge in networking, management, and IT. We wanted to combine our strengths to create synergy. Around that time, I learned that Korea University Sejong Campus actively supports startups, which motivated us to take on the challenge of launching our brand.

What was the preparation process like, and how did Korea University Sejong Campus help?

The preparation process was not easy. We had an idea, but we didn't know where to start. So, I randomly called the Entrepreneurship Education Center at Korea University Sejong Campus to ask for advice. A key turning point was meeting Professor Kim

From Gangnam Station Flooding Experience to Entrepreneurship: Finalizing [MT]² = 'A' Formula

[MT]² is a startup that originated from the Korea University Startup Club, founded with the mission of 'Minor Think Make True'—turning small ideas into reality to benefit society. Since being selected as a startup club in 2022, the team has been actively working as a practical entrepreneurship club, focusing on urban environmental improvements. Currently, they are developing Type-A drainage grates to prevent recurring annual flood damage. The team is in the process of obtaining performance certification and preparing for product procurement as they move toward commercialization.



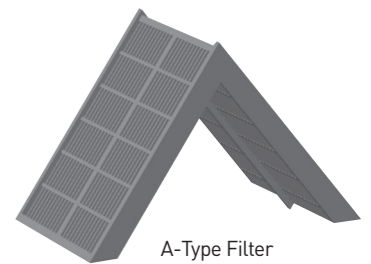
[From left] Suyeon Jeong [Global Management '23], CEO Si-hyun Kim [Semiconductor Physics '18], Myeong-cheol Kim [Global Management '19]

Turning Experience into Entrepreneurship: Formulating the [MT]² Equation

The vision for a technology startup was born from a personal experience during the 2022 Gangnam Station flooding incident. After discovering that debris and foreign substances were the main causes of recurring flood damage, the team researched effective removal methods, eventually developing a startup idea.

In the second semester of 2022, the team was selected as a pre-startup club, where they spent two years refining their technology. They are now operating as a practical entrepreneurship club. Since starting their startup club activities at the end of 2022, they have officially registered their business in May this year and are currently working on performance certification and product procurement.

The process of preparing for a technology startup was not easy. In the early stages, the team had to conduct numerous experiments to validate the effectiveness of their idea, and they encountered many trial-and-error challenges while developing prototypes. There were times when they wanted to give up, but Korea University Sejong Campus provided support for patent applications, workspace, and startup development guidance. Thanks to this support, the team was able to advance the 'Type-A Drainage Grate' and establish a clear direction for their startup. Kim Si-hyun, the CEO of [MT]² stated, "For university students starting their first business, launching a startup within the university environment can be a great advantage."



The Solution of [MT]²: 'Type-A Drainage Grate'

[MT]² owns a patented roadside stormwater drainage technology called the 'Type-A Drainage Grate.' Unlike conventional flat grates, this innovative A-shaped design extends the replacement lifespan and ensures continuous drainage even when debris accumulates.

This patented design effectively manages debris accumulation while maintaining adequate drainage space. According to Bernoulli's principle, the design increases water flow velocity, allowing drainage efficiency to remain stable even when debris builds up. Additionally, in pilot tests, the team confirmed that their grate can accommodate approximately four times more debris than conventional grates.

In 2024, [MT]² was selected for the Ministry of SMEs and Startups' Pre-Startup Package, securing 55 million won in funding. This financial support will enable the team to smoothly proceed with mass production and facilitate the supply process to commercial partners.

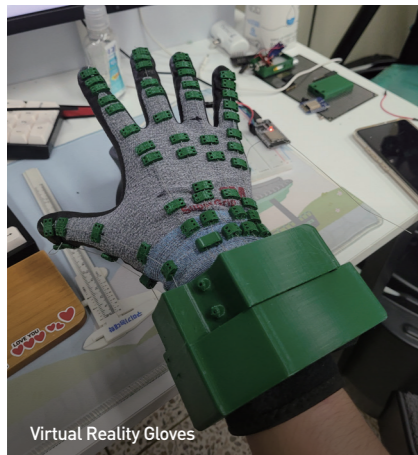
The team's motivation comes from their belief in the value of challenges and the certainty of entrepreneurship. They gained confidence through awards in startup competitions and mentorship from Entrepreneurship Education Center professors. Seeing dedicated and passionate team members further strengthened their motivation for developing their startup idea.

The primary goal is to manufacture the 'Type-A Drainage Grate' and supply it to public institutions and government offices. The team plans to obtain certification marks and register the product as an excellent procurement item, securing domestic distribution. Additionally, they aim to expand internationally by registering for global patents and entering the global market.

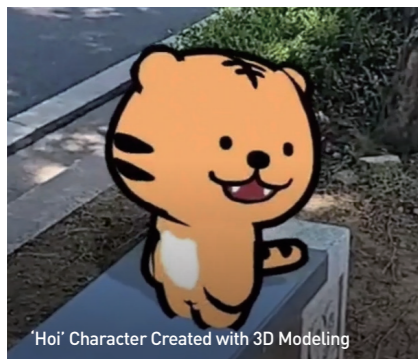


Innovation Paving the Future of Virtual Reality: Developing VR Gloves That Recreate Precise Tactile Sensations

The rapid advancement of virtual reality (VR) technology is bringing innovative changes to our daily lives and experiences. VR is being increasingly utilized in various fields, including gaming, education, healthcare, and entertainment, highlighting its vast potential. At Korea University Sejong Campus, one student is embracing this transformation by venturing into the VR device industry and preparing for a startup. Today, we spoke with Jung Jun majoring in Department of Electronics and Information Engineering, the representative of the startup club Elysian, to hear his entrepreneurial journey.



Virtual Reality Gloves



'Hoi' Character Created with 3D Modeling

Can you introduce the product currently in development?

At Elysian, we are developing VR gloves that can precisely detect finger movements and recreate the sensation of touching objects in a virtual environment. Traditional VR devices require users to hold controllers, which restricts free finger movement. To address this, hand tracking technology was introduced, allowing cameras to capture and recognize hand and finger movements. However, this method has limitations, such as losing tracking when hands move out of the camera's view and struggling to accurately detect fine finger movements. Our VR gloves aim to overcome these drawbacks and offer a highly detailed virtual reality experience for various industries, including robotic remote control, rehabilitation therapy, military training, and aerospace applications.

What inspired you to develop VR Gloves and turn this into a startup?

Since childhood, I have loved building machines, working on 3D printing projects and robotics. Later, I developed an interest in game development, spending a year and a half studying game engines, networking, programming, and 3D art. After entering university, I became involved in a metaverse research society, which sparked my passion for VR devices. Through this journey, I realized I could combine my experience in game development and robotics, leading me to set a goal: to create the world's most advanced VR devices. This vision ultimately led me to pursue entrepreneurship.



Grand Prize Winner of the 2024 University Startup Competition

Can you share the process of preparing for your startup, Elysian?

I have a hands-on approach, so I started by buying necessary components and building devices, gradually learning as I went. The trial-and-error process of solving problems taught me the most valuable lessons. A pivotal moment in choosing this path was my participation in 'United', a project by the Crimson Brain Society at Korea University Sejong Campus. Through this society and the startup club, I received practical support, including special lectures and funding for materials, which greatly helped in my startup preparation.

What makes Elysian's VR Gloves unique and competitive?

While motion capture gloves that track finger movements already exist, gloves that precisely replicate tactile sensations are extremely rare, especially in South Korea. Our product features the world's highest level of precision in tracking finger movements while also recreating the sensation of touching objects, making it a truly innovative VR glove.

Elysian has won several startup competitions, including the grand prize at the University's Startup Competition. What do you think contributed to this success?

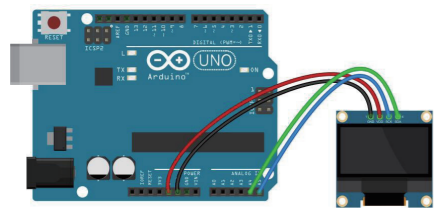
I believe our success in multiple competitions was thanks to our dedicated team members and the strong support of our faculty advisor. As the team leader, I focused on creating detailed plans and maintaining clear communication, which minimized confusion and maximized our team's potential. The achievements in startup competitions were also made possible by the invaluable support from our university and the surrounding community.

What are your future plans and goals?

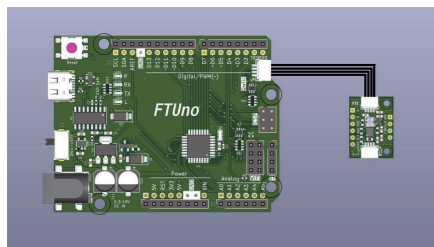
Next year, we plan to apply for the Early Startup Package program and, once product development is complete, approach potential clients for Proof of Concept (POC) testing. Our ultimate goal is to create a highly immersive virtual reality experience that is so realistic it becomes indistinguishable from the real world.

Removing Complexity and Enhancing Trust: The Development of Improved Arduino Uno

The Arduino Uno, an essential tool for electronics engineering and programming practice, often presents a barrier to beginners due to its complex wiring and connection methods. To address this issue, FT Industries, a startup club at Korea University Sejong Campus, has stepped up. We spoke with Song Taeyong, the representative of FT Industries and a student in the Department of Electronics and Information Engineering, who is working to improve the existing Arduino Uno by developing a simpler yet more reliable version.



Quadruped Robot Using FT Industries' FTNano



FT Industries' Upgraded Arduino Uno Connection Diagram

I understand that you have improved the inconveniences of the Arduino Uno that engineering students have been using. What exactly is Arduino, and what aspects have been improved?

Arduino refers to a series of microcontroller development boards released by the Italian company Arduino, as well as similar products inspired by them. Arduino is widely used in electrical and electronic engineering labs, robotics, coding education, and electronic product development. Among its various models, the most well-known and representative one is the Arduino Uno.

The original Arduino Uno required users to manually connect each wire when attaching peripherals. However, for beginners, this wiring process could be complicated and difficult. Additionally, when multiple devices were connected at the same time, tangled wiring often led to reduced reliability.

To address these issues, our team adopted the Qwiic connection system, allowing peripherals to be easily connected with just a single cable. The Qwiic system ensures a reliable connection with minimal effort, making it highly useful even in research applications.

Additionally, we introduced a USB Type-C connector to enhance user convenience and improved the power circuit to accommodate a wider voltage range. To further maximize usability, we incorporated a power switch and a communication module socket. Moreover, we designed the board with circuit protection components to safeguard against static electricity, overcurrent, reverse voltage, and short circuits.

Despite integrating all these features, we aim to offer the product at 50% lower cost compared to the existing models."

What are the expected benefits of developing the improved Arduino Uno?

By creating a more reliable and user-friendly Arduino environment, we aim to provide a product that is well-suited for both learning and research. Currently, low-cost Arduino clones in the domestic market often lack proper documentation and support, causing inconvenience for users. Our team strives to maintain affordability while ensuring high quality and reliability through meticulous design, comprehensive documentation, and open-source schematics.

What are the expected benefits of developing the improved Arduino Uno?

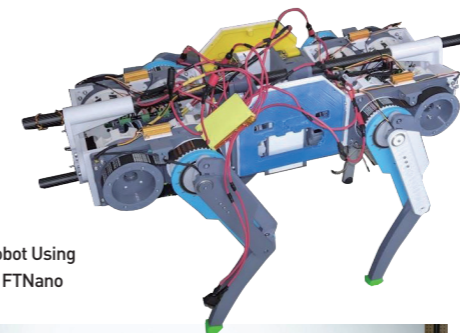
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Can you share your experience in preparing for a Startup?

First, I had to study the circuit diagrams available on the official Arduino website. Fortunately, the Arduino series has publicly available schematics, which was a great help.



(From left) Planning Lead Seong-bae Park (Electronics and Information Engineering '23), Team Leader Tae-yong Song (Electronics and Information Engineering '23)



Quadruped Robot Using FT Industries' FTNano



(From left) Accounting Jun-won Kim (Global Management '17), Planning Seong-bae Park (Electronics and Information Engineering '23), Team Leader Tae-yong Song (Electronics and Information Engineering '23), Advisor Seong-guk Seo (Electronics and Information Engineering '21), Software Development Young-gi Lee (Electronics and Information Engineering '21)

At Korea University Sejong Campus Entrepreneurship Education Center, our team received mentoring sessions, special lectures, and partial funding for prototype production, which significantly eased the financial burden. Additionally, we distributed prototypes to members of the Crimson Brain Society 'KURO' and gathered feedback from their experiences.

One of the most memorable events was the Step-Up Pitch Day held at the beginning of the semester. This event allowed us to present our startup project and receive evaluations, helping us clarify our business direction and assess our progress. Our successful presentation led to the promotion of our startup club from the 'training level' to the 'practical level.'

What are your future plans and goals?

Our team is working on a variety of products beyond the Arduino Uno-compatible board, including an Arduino Nano-compatible board, accelerometers, and magnetometers.

We are currently preparing six products for release in the first half of 2025, with plans to introduce a high-performance product line in the second half of the year. Our goal is to develop high-performance products that are difficult to find in the domestic market, bringing new value to the industry.

Korea University Sejong Campus Pioneers in Advanced Technology Development: Establishment of the Department of Digital Healthcare Engineering and the Department of Advanced Convergence Pharmaceutical Sciences

Department of Digital Healthcare Engineering

The Department of Digital Healthcare Engineering focuses on the integration of advanced digital technologies with healthcare, aiming to develop innovative medical services and technologies. Its objective is to nurture professionals capable of contributing to the global digital healthcare industry. The curriculum includes foundational and advanced courses, along with hands-on projects and practical training designed to solve real-world medical challenges. This approach ensures that students gain both theoretical knowledge and practical expertise.

Educational Goals

The department stands on three main educational purposes. First, to train interdisciplinary professionals equipped with academic knowledge and practical skills in both ICT and healthcare. Secondly, to conduct research on the latest technologies and trends in digital healthcare and apply them to real medical environments. Finally, to provide students with hands-on experience through collaborations with domestic and international digital healthcare companies and research institutions.

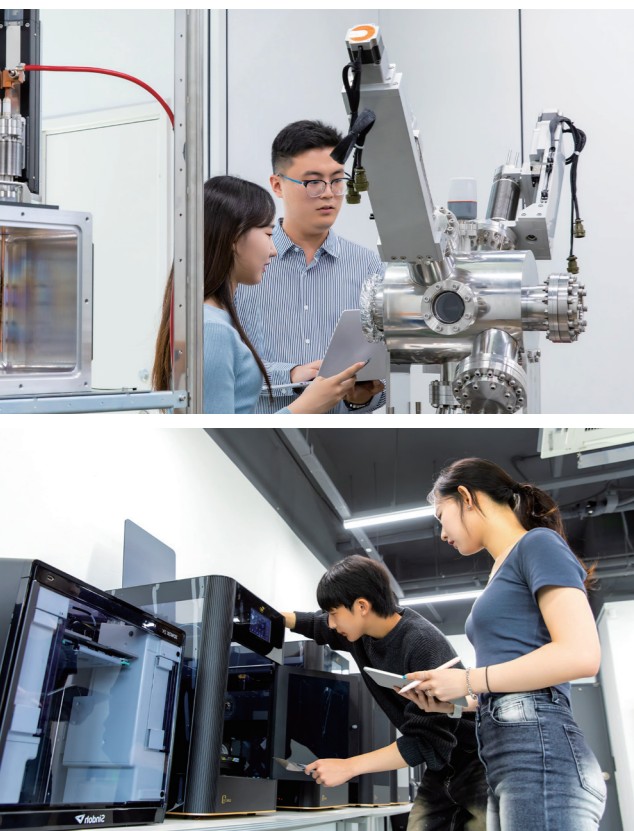
Key Research Areas

First, digital healthcare system by utilizing ICT devices for health management, telemedicine, and diagnostic technologies. Second, digital health information systems through developing and managing electronic medical records (EMR) and health information systems (HIS). Third, healthcare analytics by using AI and big data to analyze healthcare data for disease prediction and prevention. These studies all aim to improve the quality of healthcare and provide better health management solutions.

Career Prospects

Graduates can pursue careers in major healthcare technology firms, hospitals, and medical institutions, where they can develop and implement digital healthcare solutions. Additionally, they can work in research institutes and public organizations engaged in healthcare policy and technology development. Opportunities also exist in startups and venture enterprises focused on innovative healthcare solutions. Students interested in academia can continue their research through graduate programs domestically or internationally.

By staying at the forefront of the digital era, the department aims to cultivate human resources that will drive the healthcare industry forward, contributing to a healthier society while ensuring global competitiveness.



Korea University Sejong Campus is proactively fostering human resources in response of future industrial demands. The university already operates various pioneering departments such as the Department of Autonomous Mobility, Department of AI Semiconductor Engineering, Division of Smart Cities, Department of AI Cyber Security, and Division of Big Data Science. This year, it will further expand its offerings by introducing two new departments, Digital Healthcare Engineering and Advanced Convergence Pharmaceutical Sciences, and plans to recruit new students.

Department of Advanced Convergent Pharmaceutical Sciences

The Department of Advanced Convergent Pharmaceutical Sciences is dedicated to pioneering innovative medicine development. This department integrates advanced science, biotechnology, chemistry, and pharmacology to advance the field of pharmaceuticals. With the increasing adoption of AI technology in medicine discovery, this program seeks to lead the development of biopharmaceuticals using advanced methodologies. Students will gain an in-depth understanding of the entire medical development process and acquire practical skills necessary for the industry.

Educational Goals

The department aims to cultivate experts in advanced chemical and biological medicine development, biopharmaceutical technology, and bio-digital convergence research. The curriculum encompasses theoretical education, research, and hands-on training, providing students with a comprehensive skill set ranging from traditional medicine discovery techniques to state-of-the-art AI-driven approaches.

Key Research Areas

Advanced chemical and biological medicine development through exploring novel chemical compounds and biological foundations for pharmaceutical innovation. Biopharmaceutical technology by conducting research on advanced biopharmaceuticals, including cell and gene therapy. Bio-digital convergence research by utilizing AI and big data to optimize medicine discovery and development processes.

Career Prospects

Graduates can pursue careers as researchers in pharmaceutical companies, biotech firms, and government healthcare institutions, specializing in medicine development, quality control, and clinical trials. Those interested in academia can continue their studies at domestic or international graduate schools. Additionally, students with entrepreneurial ambitions can establish startups in fields such as pharmaceuticals, health supplements, cosmetics, and medical devices.

By fostering key professionals in pharmaceutical research and innovation, the Department of Advanced Convergent Pharmaceutical Sciences aims to play a pivotal role in the rapidly evolving landscape of medicine development. It will provide students with international research opportunities to help them excel in a globalized pharmaceutical industry.



Three Key Educational Programs for Fostering Future Creative Individuals

Project Semester, CURT Program, and Crimson Brain

Nurturing creative and interdisciplinary human resource required by the future society is a crucial task for universities and a key factor in determining national competitiveness. To achieve this, Korea University Sejong Campus is actively conducting various specialized educational programs, both curricular and extracurricular, to foster interdisciplinary human resource who will lead local communities and the nation.



Korea University Sejong Campus is implementing various educational innovations to cultivate interdisciplinary talent that will lead the Fourth Industrial Revolution era. In particular, by fostering self-directed learning and career planning, enhancing practical expertise by connecting major education with real-world experience, the university aims to develop self-directed creative individuals.

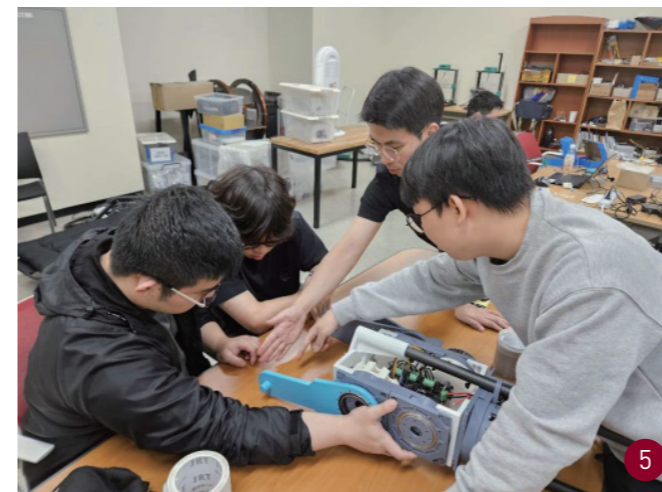
A representative example of this is the Project Semester. The Project Semester is a program where students select a research topic related to their major, conduct research throughout the semester, and receive academic credit based on their research outcomes. During the research process, students regularly receive guidance and feedback from a faculty advisor, whom they personally select according to the characteristics of their project. Since students participate in every stage of the process independently, the program fosters a spirit of challenge and problem-solving skills. Every year, around 80 students complete the Project Semester.

The Project Semester focuses on self-directed creative education, while the CURT Program supports research. The CURT Program is a KUS-type research innovation initiative where undergraduates, graduate students, and faculty collaborate on research projects. Undergraduates explore original research topics, graduate students provide mentorship, and faculty offer guidance to identify top undergraduate researchers. This program enhances research competitiveness and sustainability by fostering high-quality research talent.

As of 2023, 1,684 students have participated, and in 2024's first semester, the program recorded



- 1 Crimson Brain - 'Archioscope' Mentoring
- 2 Project Semester - 'Challenge! Project Semester Achievement Presentation'
- 3 Crimson Brain - 'Elegant Hangul' Mentoring



- 4 Bae Sangwoo, College of Science and Technology
- 5 CURT Program Participant

its highest participation with 264 students selected. It also achieved a 91.9% satisfaction rate and ranked 13th nationwide (top 8.1%) in graduate school enrollment rates (as of 2022).

Additionally, the Crimson Brain program serves as a career development student community, conducting student-led research and industry collaboration projects. It fosters peer networking, mentor-mentee activities, and specialized extracurricular curriculums, creating a positive feedback cycle. As of 2024's first semester, 30 teams and 808 students are actively participating.

Through these demand-driven academic programs, Korea University Sejong Campus enhances self-directed learning, career planning, global research competencies, and practical expertise. This initiative plays a vital role in cultivating interdisciplinary talent to lead the Fourth Industrial Revolution.

A Path of Creative Convergence for Designing the Future: Exploring Creative Convergence Courses at Korea University Sejong Campus

Creative convergence courses provide a platform for developing these skills, exploring interdisciplinary interactions, and laying the foundation for students to grow as global citizens. These courses go beyond simply delivering knowledge; they focus on cultivating the ability to connect and integrate different ways of thinking across various fields. We spoke with two professors teaching creative convergence courses to hear their stories.



Professor David B.H. Farr

What inspired you to teach creative convergence courses?

I was invited to lead a Science and Religion course, which aligns with my PhD studies. Since religious studies naturally integrate multiple disciplines, it fit well within the creative convergence curriculum. In spring 2025, I plan to introduce 'Power and Belief: The Global Convergence of Religion and Governance.'

What are the specific topics covered in the course on scientific progress and religious identity, and what makes this course unique?

The course explores science and religion through four perspectives: conflict, independence, dialogue, and

integration. A key feature is its focus on modern scientific advancements, encouraging students to explore dialogue and harmony rather than opposition.

What is the core educational philosophy emphasized in this course, and what key message do you want to convey to students?

I emphasize critical thinking and interdisciplinary analysis. Students learn to examine interactions across disciplines and develop independent perspectives through deep analysis and discussion.

What skills do you hope students will develop through this course?

Students gain broader perspectives, respect for various worldviews, and critical thinking skills by analyzing ideas from ancient traditions to modern science.

As a foreign professor, what strengths do you bring to teaching a creative convergence course?

My multicultural background provides diverse perspectives. Having studied in the West and taught in Korea, I help students understand different cultural approaches to science and religion.

How can this course benefit students?

Students learn to respect diverse views, think logically, and communicate clearly. They develop flexibility and problem-solving skills, essential for addressing global challenges.



Professor Lee Yoonjin

What led you to teach creative convergence courses?

I noticed many students were indifferent to social issues, which inspired me to design a course that fosters understanding and creative thinking for change.

What specific topics do you cover in the two courses you teach?

'Bridging Values and the Future' combines theory with practical activities, analyzing multicultural integration, engaging in community projects, and exploring sustainability. 'Cultural Phenomena and Human Psychology' examines cultural phenomena, fostering adaptability and insight into universal psychology and cultural differences.

What is the core educational philosophy emphasized in your classes, and what key message do you aim to convey to students?

I emphasize integrative thinking to foster creativity. Creativity requires acquiring information, recognizing and solving problems, and transforming knowledge into new values. My goal is to help students develop these skills to view the world uniquely and respond actively to change.

What skills do you hope students will develop through these courses?

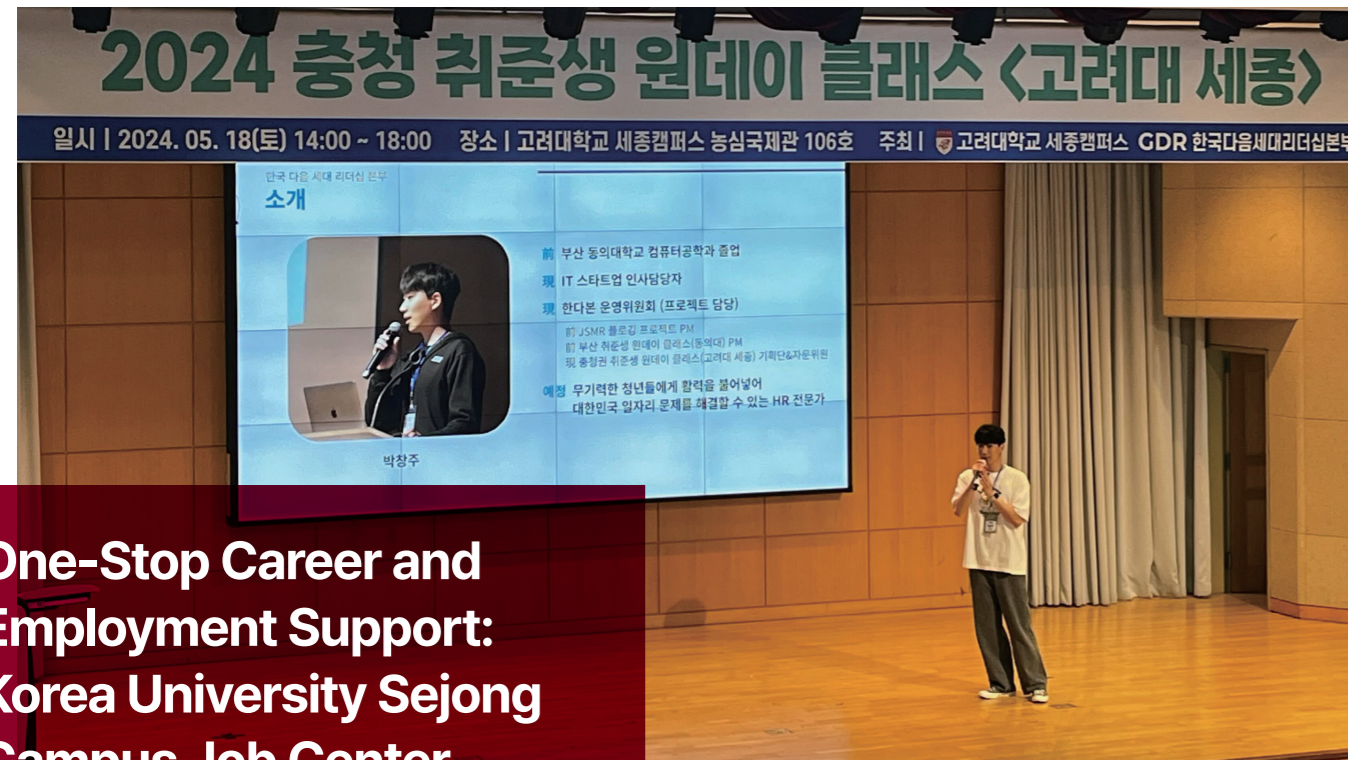
'Bridging Values and the Future' builds societal insight and problem-solving skills, while 'Cultural Phenomena and Human Psychology' enhances creative adaptability in a globalized world.

What are the strengths of creative convergence courses compared to traditional courses?

These courses explore topics across disciplines, offering broader perspectives. Connecting different ideas and cultures strengthens integrative thinking and problem-solving, essential in today's complex society.

What skills can students develop through creative convergence courses?

By applying diverse knowledge to real-world problems, students learn to go beyond existing ideas and create new values, preparing them to analyze and solve complex challenges innovatively.



One-Stop Career and Employment Support: Korea University Sejong Campus Job Center

The Job Center at Korea University Sejong Campus provides comprehensive career planning and job preparation services, offering students customized programs and personalized counseling to support them in navigating their professional paths.

Tailored Counseling and Integrated Support

The center offers specialized career counseling services based on students' majors and career aspirations. In addition to academic career programs, the center has established an integrated support system to help students overcome various challenges related to academic life, mental well-being, and career planning. Through Korea University Sejong Employment & University Management System (KUSEUM), students can access year-specific career courses tailored to their development stage, job training camps, alumni mentoring sessions, and corporate analysis competitions providing structured support from career exploration to employment. Beyond traditional career counseling, the center offers diverse and customized support services, ensuring that

students can overcome job search challenges and develop a well-structured career plan.

'KUS-Cheer Up' Program: Intensive Career Coaching for Unemployed Graduates

The 'KUS-Cheer Up' program provides one-on-one coaching and mentorship to unemployed graduates, offering resume writing workshops, interview preparation, tailored job postings, and post-program follow-up support to enhance graduates' employment success rates.

Results from the first semester of 2024 demonstrated significant improvements among participants' understanding of desired job roles and industries increasing from 3.26 to 4.05 (+0.79), confidence in possessing necessary skills rose from 3.23 to 3.93 (+0.7), and job search confidence improved from 3.17 to 3.88 (+0.71).

The center serves as a key partner in students' career development, offering structured guidance and professional support to help them achieve their aspirations, and will remain committed to empowering students to discover their potential and build a bright future.



Taking the First Step in Student Start-Up with the Sejong Entrepreneurship Education Center

As entrepreneurship gains interest, the Sejong Entrepreneurship Education Center has established a startup education roadmap to systematically equip students with the skills needed to turn their ideas into reality. Designed in a step-by-step format, it guides students from basic fundamentals to practical application, offering a structured and hands-on learning experience.

The roadmap categorizes startup growth into stages, aligning curricular and extracurricular programs to each level. Students progress systematically, minimizing trial and error while gaining entrepreneurial knowledge and hands-on experience. This structured approach reduces confusion and helps them design effective career paths.

Key Features of the Startup Education Roadmap

By integrating theory with practice, the roadmap enhances entrepreneurial competencies and supports students in

developing concrete business plans. The Sejong Entrepreneurship Education Center continues to strengthen its programs, building a sustainable entrepreneurship education system.

Strengthening Entrepreneurial Competencies Through High-Quality Education

Beyond startup skills, the roadmap fosters creative, problem-solving, and leadership abilities. Moving forward, the center will expand strategic programs to ensure students' entrepreneurial challenges turn into successful ventures.

Nurturing Creative and Innovative Entrepreneurs

The startup education roadmap is not just about teaching startup skills—its goal is to cultivate well-rounded entrepreneurs with creative thinking, problem-solving abilities, and leadership skills. Moving forward, the center will continue to drive the development of sustainable entrepreneurship education through systematic and strategic programs, ensuring that students' entrepreneurial challenges turn into successful ventures.

KUS in Pictures



7th Proud KU Sejong People Awards Ceremony (March 7, 2024)

On March 7, Korea University Sejong Campus hosted the 7th Proud KU Sejong People Awards Ceremony. The 'Proud KU Sejong People Award' is presented to individuals who have made significant contributions to the development of Korea University Sejong Campus and to enhancing its reputation both domestically and internationally. This year, the award was given to Park Jungpil (From the Division of Business Administration, Class of 84, CEO of Joongwon Engineering), and Choi Kwangyeol (From the Division of Business Administration, Class of 79, CEO of ENC, Inc.).



HOI



Large 'HOI' Sculpture Installed to Promote Educational Innovation (March 15, 2024)

Korea University Sejong Campus installed a large 'HOI' sculpture and LED display in the Central Square, bringing joy to students and local residents. This installation was designed to promote the values of sustainable development education within the SEMO Class, an educational innovation model, and to expand and publicize the educational effectiveness of learning-sharing classes. SEMO, which stands for 'Student Engaged Modular,' is Korea University Sejong Campus's innovative teaching model. It is structured around learner-centered small group activities based on hybrid online and offline learning.



Our Youth Will Become a Legend: Daedong Festival 'FOREVER' (May 13, 2024)

From May 13 to 14, Korea University Sejong Campus hosted the Daedong Festival in various locations, including the Tennis Court, Students Union Building, and Sejong Academic Information Center. During the day, students enjoyed a variety of experiences at booths and attractions hosted by various clubs and departments, as well as indulging in food from food trucks, fully immersing themselves in the festive atmosphere. The excitement of the festival continued into the night, with students gathering around pub tables to share conversations or enjoying performances in front of the main stage.



Daedong Festival

KU

Photo



2024 Annual Korea-Yonsei Competition Held (September 27-28, 2024)

From September 27 to 28, the 2024 Annual Korea-Yonsei Competition, ended in a tie with Korea University recording two wins and two losses. Korea University secured victories in baseball (3-0) and ice hockey (4-3) but suffered defeats in basketball (54-57) and soccer (1-2). As a result, the overall historical record between the two schools now stands at 20 wins, 11 draws, and 20 losses, reflecting a closely contested rivalry.

The Annual Korea-Yonsei Competition is a celebration of the strong friendship and tradition between Korea University, founded with the spirit of educational independence during the Japanese colonial period, and Yonsei University, established on the values of truth and freedom. Originating in 1927 with a soccer match known as the 'Boyeon Match' (Boseong College vs. Yonhee College), the event officially became an annual tradition in 1965, continuing its legacy to this day.

Korea-Yonsei Competition



2025 University Regular Admission Fair (December 19-21, 2024)

From December 19 to 21, Korea University Sejong Campus participated in the 2025 University Regular Admission Fair held at COEX in Seoul. During the event, the university provided personalized one on one consultation services focused on university admissions, career guidance, and academic pathways for prospective students, parents, and high school teachers.

01

23rd Memorial Ceremony Held for the Late Lee Soohyun (May 14, 2024)



On May 14, a memorial ceremony was held in front of the monument dedicated to the late Lee Soohyun near the Science and Technology Building II. This ceremony honored the noble sacrifice and courageous actions of the late Lee, who lost his life on January 26, 2001, while trying to save a passenger who had fallen onto the tracks at Shin-Okubo Station in Tokyo.

02

2nd KUS Crimson Arts Performance Series (May 29, 2024)



Korea University Sejong Campus Institute for General Education hosted the 2nd KUS Crimson Arts Performance Series under the theme 'Spring and Love.' The event featured Beethoven's Violin Sonata, Schumann's Träumerei, Mozart's Clarinet Quintet, and Schumann's Piano Quartet, which was the highlight of the performance. Professor Yoon Jihee, who participated as a pianist, shared, "We hope this will be a day for you to listen to the music and reflect on the unseen yet precious things in life."

03

2024 Korean American Youth Homeland Visit Program (July 8, 2024)



From July 8, a 10-night, 11-day program was held for 60 Korean American youth as part of the 2024 Korean American Youth Homeland Visit Program. Participants explored Korea through corporate visits, cultural experiences, and military camp activities. Co-hosted by Korea University Sejong Campus and the Korean Roots Foundation (New York), with sponsorship from Hana Financial Group and the Joe Foundation, this program has run 12 times since 2009, helping over 700 Korean American youth reconnect with their roots.

04

MOU Signed and Workshop Held with the Institute of High Energy Physics of the Chinese Academy of Sciences for Accelerator Research Collaboration (October 16, 2024)



Korea University has signed an MOU with the Institute of High Energy Physics (IHEP) of the Chinese Academy of Sciences to collaborate on research related to the fourth-generation synchrotron radiation accelerator (HEPS) and the Circular Electron Positron Collider (CEPC). This agreement also aims to promote personnel exchanges in accelerator science. Through this MOU, Korea University will advance beam physics and diagnostics research using its self-developed beam codes for the HEPS and CEPC, currently in trial operation, while fostering experts in accelerator technology.