

IKCRI Sci News Vol. 4

September 2024

India-Korea Sci News



한-인도 연구혁신센터

India Korea Center for Research and Innovation

IKCRI
भारत कोरिया अनुसंधान तथा नवोन्मेष
한국인도연구혁신센터
IndiaKorea Center for Research and Innovation

Contents

Intro...

1. India-Korea S&T News

☞ (S. Korea & India) Recent Science & Technology News

2. India-Korea Policy News

☞ (S. Korea & India) Recent S&T Policy News

3. Sci News Highlights

☞ ‘Global Bio-India 2024’ in New Delhi, India

4. Major Activities of IKCRI

☞ Invited Lecture and S&T Cooperation in MNNIT-Allahabad

☞ Korea-India S&T Meeting (IIT Varanasi, Hifil, KAST)

5. India-Korea S&T Seminar

☞ Approval System of New Drugs & Medical Devices in India (Online)

References

© Intro...



Greetings from IKCRI.

I am Young Ho Kim, Director of the India Korea Center for Research and Innovation (IKCRI).

The IKCRI is a public institution established in New Delhi, India, by the Ministry of Science and ICT (National Research Foundation, South Korea) to promote science and technology cooperation between India and South Korea.

To provide major news on science and technology and policy from India and South Korea, as well as networking information for science and technology cooperation, my center regularly publishes the ‘India-Korea Sci News.’

In the Sci News Highlights of this volume, the ‘Global Bio-India 2024’ is introduced with major biotechnology policy and science information in this booklet.

My center aims to be a bridge connecting India and South Korea for the exchange and cooperation of advanced scientific technologies. We will diligently support the activation of scientific and technological information exchange, personnel exchange, and cooperation between India and South Korea.

Thank you.

Director/Dr. Young Ho Kim 7/ 영 호

▣ [S. Korea] SCIENCE & TECHNOLOGY NEWS

○ POSTECH Develops Anode Technology That Increases Electric Vehicle Battery Capacity by Fourfold

A research team led by Professor Won-bae Kim from the Department of Chemical Engineering at Pohang University of Science and Technology (POSTECH) has developed a breakthrough technology that combines conductive polymers with silicon anodes, quadrupling the energy storage capacity of lithium-ion batteries. This innovation is poised to significantly extend the driving range of electric vehicles.

Lithium-ion batteries consist of a cathode, an anode, and an electrolyte, with the anode playing a crucial role in determining the battery's energy storage capacity. Currently, graphite is used as the anode material in electric vehicle batteries, but its relatively low energy storage capacity presents a limitation.

The POSTECH research team addressed this issue by developing an anode coated with an artificial solid electrolyte membrane, compensating for the shortcomings of silicon anodes. The team utilized polyaniline to create this artificial solid electrolyte membrane, which was applied to the surface of the anode. The membrane's layered structure enhances the lithium-ion storage capacity. As a result, they successfully achieved a significant increase in energy storage capacity. The newly developed battery maintained an energy capacity more than four times higher than that of commercial batteries, even after over 250 cycles of fast charging.[1]

○ KIST Develops AI Technology for Precise Prediction of Ion Concentration in Water

A research team led by Dr. Moon Son from the Water Resource Recycling Research Center at the Korea Institute of Science and Technology (KIST), in collaboration with Professor Sang-soo Baek's team from Yeungnam University, has developed an artificial intelligence (AI) technology capable of precisely predicting ion concentrations in water during water treatment processes.

The joint research team employed a 'Random Forest' model to predict ion concentrations in electrochemical water treatment technologies. The model is capable of accurately predicting both the conductivity of treated water and the ion concentration. Moreover, compared to complex deep learning models, this new AI model requires over 100 times fewer computational resources for training, making it highly cost-efficient.

Dr. Son emphasized, "The significance of this research lies not only in the development of a novel AI model but also in its potential application to the national water quality management system." [2]

○ **Korea University Develops High-Performance Perovskite Solar Cells**

A research team led by Professor Joon-hong Noh from the Department of Architecture and Environmental Engineering at Korea University has developed high-performance perovskite solar cells using bidirectional interface engineering technology. Perovskite is a next-generation material that is thinner and lighter than the silicon traditionally used in solar cells, while also providing enhanced efficiency and stability. However, since perovskite technology is based on heterojunctions, there have been challenges related to defects at the interface and thin films, which degrade the performance of solar cells.

The research team induced chemical interactions between a halide-like additive and the perovskite thin film to produce highly crystalline perovskite thin films. They also developed a technology that enables bidirectional interface distribution of cations and anions within the thin films, leading to the creation of high-performance perovskite solar cells.[3]

○ **Yonsei University Develops Drug Delivery Platform for Targeted Cancer Therapy**

A research team led by Professor Young-hoon Roh from the Department of Biotechnology at Yonsei University has developed a new drug delivery platform that precisely targets cancer cells and releases drugs in the tumor microenvironment using advanced nanomaterials. For effective cancer treatment, it is crucial to develop technologies that deliver drugs specifically to tumor sites without damaging healthy tissues. To achieve this, 3D DNA nanostructures that respond to environmental changes have been used to target specific cells and release drugs. However, these 3D nanostructures suffer from limitations such as instability in biological environments and low drug-loading capacity.

The research team developed a hybrid nanocomposite by combining DNA nanostructures synthesized via a 'Rolling Circle Amplification' (RCA) technique with nanocellulose. This next-generation cancer therapy method targets specific cancer cells with precision and releases drugs exclusively in the acidic environment of cancer tissues.

The nanocomposite developed by the team includes a polymeric DNA structure composed of aptamers that target nucleolin receptors overexpressed on the surface of cancer cells and i-motif sequences that release drugs in response to the acidity (pH) of cancer tissues.[4]

▣ **[India] SCIENCE & TECHNOLOGY NEWS**

○ **IIT Kanpur Researchers Visualize Key Cell Receptor, Unlocking New Drug Pathways for Infectious Diseases**

Researchers from IIT Kanpur, led by Prof. Arun K. Shukla, have achieved a scientific milestone by visualizing the complete structure of the Duffy antigen receptor. This receptor, found on the surface of red blood cells, acts as a gateway for harmful pathogens, such as the Plasmodium vivax malaria parasite and Staphylococcus aureus bacteria, to invade human cells.

The discovery is crucial for developing targeted therapies to combat drug-resistant

infections, including malaria, staphylococcal infections, and other pathogens like HIV. With rising concerns over antimicrobial resistance, this research could lead to next-generation antibiotics and antimalarial drugs. Notably, individuals of African descent, who often lack this receptor due to genetic variations, are naturally resistant to certain malaria parasites, further highlighting the receptor's significance in disease treatment. Prof. Shukla emphasized that this discovery could revolutionize how researchers design medicines to block infections at the cellular level without triggering adverse effects. The research was conducted in collaboration with institutions from Switzerland, South Korea, Japan, the UK.[5]

○ IIT Delhi Unveils Two Ground breaking Healthcare Technologies for Disease Detection and Treatment under NNetRA Initiative

On July 31, 2024, IIT Delhi successfully transferred two pioneering healthcare technologies to industry partners. The technologies aim to revolutionize disease detection and treatment. The first innovation, a Photonic Chip-based Spectrometric Biosensor, was transferred to UNINO Healthcare Private Limited, Mumbai. This advanced biosensor, developed by Prof. Joby Joseph and his team from the Optics and Photonics Centre and Physics Department, enables quick and accurate pathogen detection. It is designed to help prevent infectious diseases and lower diagnostic costs.

The second breakthrough technology, DNA Aptamer for Prostate Cancer Detection, was transferred to HUMMSA Biotech Pvt Ltd, Kolkata. Developed by Prof. Prashant Mishra's team from the Department of Biochemical Engineering and Biotechnology, this DNA aptamer can be integrated into point-of-care devices to provide fast and precise prostate cancer detection. It also shows potential as a novel drug.

Prof. Rangan Banerjee, Director of IIT Delhi, applauded the research teams for their achievements and acknowledged MeitY's support through the NNetRA initiative.[6]

○ CSIR Develops Advanced Battery for Sub-Zero Conditions, Benefiting Defence and Remote Energy Solutions

The Council of Scientific and Industrial Research (CSIR) has developed a high-performance zinc-air battery designed to function in sub-zero temperatures, offering significant benefits to military forces and civilians in remote, high-altitude areas. The battery, created by a team from CSIR-Central Mechanical Engineering Research Institute, combines a durable cobalt-iron alloy cathode catalyst with an anti-freezing electrolyte. This innovative structure ensures efficient energy storage and durability in extreme cold, addressing the limitations of conventional batteries in harsh environments. This portable, flexible, and lightweight zinc-air battery can serve a variety of users, providing reliable energy solutions in remote and challenging conditions. Its potential applications range from everyday consumers to military personnel. The battery also supports the broader goal of sustainable and resilient energy solutions by enabling energy independence in harsh climates.

Given the rising demand for power, the need for efficient energy storage systems is crucial.

Traditional lithium-ion batteries face limitations due to the weight of cathode materials like lithium cobalt oxide. Metal-air batteries, using metals such as zinc, potassium, and sodium, are emerging as viable alternatives, offering greater energy density and reduced weight. CSIR's development is part of broader efforts to create low-carbon, electro-catalytic technologies, including fuel cells and metal-air batteries, for clean energy generation.[7]

○ **IIT Guwahati Develops Portable Microfluidic System to Replicate Soil-Like Conditions, Enhancing Crop Growth**

Researchers at IIT Guwahati, led by Prof. Pranab Kumar Mondal, have developed a portable, cost-effective microfluidic system that mimics soil-like conditions to optimize nutrient flow for enhanced crop growth. The system has shown that improving nutrient delivery to plant roots enhances root growth and nitrogen uptake, leading to better crop yields, particularly in hydroponic and soil-less agriculture.

The innovative use of microfluidic technology allows precise analysis of root behavior during the critical post-germination stages, focusing on how nutrient flow influences root growth and nitrogen absorption. The study, which examined the high-yielding mustard variety Pusa Jai Kisan, revealed that increased nutrient flow boosts root length and nitrogen uptake up to an optimal level, after which excess flow-induced stress reduces root growth.

This research provides valuable insights into plant root dynamics and offers practical solutions for improving agricultural practices by optimizing nutrient delivery.[8]

2

India- Korea Policy News

▣ [S. Korea] S&T POLICY NEWS

○ **MSIT Allocates 18.9 Trillion Won (KRW) (approx. 14.25 billion dollars, USD) for 2025 Budget**

The Ministry of Science and ICT (MSIT) has allocated a budget of 18.9 trillion won (KRW) (approx. 14.25 billion dollars, USD) for the year 2025, marking a significant increase of 2 trillion won (KRW) (approx. 1.5 billion dollars, USD) compared to the 2024 budget and an additional 100 billion won (KRW) (approx. 75.1 million dollars, USD) over the 2023 figures. For the upcoming year, the R&D budget will rise to 9.7 trillion won (KRW) (approx. 7.29 billion dollars, USD), reflecting a 16.1% increase from the 8.4 trillion won (KRW) (approx. 6.31 billion dollars, USD) allocated this year.

The primary investment areas for MSIT include pioneering research and development support, with the budget set to increase from 3.64 trillion won (KRW) (approx. 2.73 billion dollars, USD) to 4.32 trillion won (KRW) (approx. 3.24 billion dollars, USD). This allocation will focus on securing international leadership in key technological areas such as artificial

intelligence (AI), semiconductors, advanced biotechnology, and quantum technology.

Additionally, funding for AI and digital innovation will see an increase from 840 billion won (KRW) (approx. 631 million dollars, USD) to 880 billion won (KRW) (approx. 661 million dollars, USD), aiming to boost productivity across various sectors and create high-quality jobs to improve public welfare. Other priorities include core talent development, expansion of basic research, and strategic international cooperation, which will receive a substantial budget of 1.25 trillion won (KRW) (approx. 939 million dollars USD).

This investment seeks to bolster global technology competitiveness and enhance Korea's role on the international stage.[9]

○ **103 Indian Software Developers Join Domestic Venture Companies in S. Korea**

The Ministry of SMEs and Startups (MSS) has announced the successful recruitment of 103 highly skilled Indian software developers into Korean venture companies. This initiative is part of a new program launched this year to address the difficulties faced by small and medium-sized enterprises (SMEs) and venture firms in hiring and retaining specialized software talent. To support this effort, the MSS organized three recruitment fairs in New Delhi, India, in February, specifically targeting Indian software developers seeking employment in Korean companies. The ministry also conducted monthly recruitment drives starting in February, which culminated in the hiring of 103 Indian developers by 30 companies. Among these, 98 developers were hired under a remote working model, allowing them to work on projects from India.

This remote recruitment model is particularly advantageous for companies facing urgent software talent shortages, as it facilitates a faster connection with developers without the need for visa issuance. Additionally, five Indian developers are in the process of obtaining visas to relocate to Korea for in-country employment.[10]

○ **Gwangju City Aims to Become an 'AI Demonstration City'**

On September 3, Gwangju city hosted a policy forum titled "Future Development Strategy through the Expansion of Gwangju AI Demonstration Valley" at the National Assembly Hall. This event was co-hosted by eight National Assembly members, including Representative In-cheol Jo, the Ministry of Science and ICT, and Gwangju city, with the AI Business Convergence Project Group overseeing the proceedings.

Gwangju city Mayor Gi-jung Kang stated, "Gwangju is envisioning a new future, centered around the dual pillars of the AI industry and the future automotive industry." Through the first phase of the AI Complex project, Gwangju has established the nation's only National AI Data Center.

To date, Gwangju has signed memorandums of understanding with 213 AI companies as part of its business attraction efforts. In addition, the city has been actively fostering practical talent through its AI Academy and spearheading various other initiatives to position itself as a hub for AI innovation.[11]

○ **Forum Held to Discuss Contributions of Senior Science and Technology Experts to International Development Cooperation**

The Federation of Science and Technology Associations hosted a forum on August 22 at the Daejeon Technopark Eoullim Plaza, aimed at identifying ways for senior science and technology experts to contribute to international development cooperation. The forum focused on the importance of Official Development Assistance (ODA) in the field of science and technology, as well as Korea's role and the potential involvement of experienced experts in this area.

Professor Seong-ho Choi of Sookmyung Women's University pointed out, "Although Korea's ODA budget for this year amounts to 6.2629 trillion won (KRW) (Approx. 4.62 billion dollars, USD), there has been insufficient investment in areas utilizing science and technology, such as research and development aimed at providing quality education and creating jobs in developing countries, and enhancing scientific and technological capacity." And, he proposed the implementation of ten leading ODA projects.

Additionally, Dong-hwa Kim, former president of the Korea Institute of Science and Technology (KIST), shared his experience in establishing and operating the V-KIST in Vietnam, including Korea and Germany's ODA programs, emphasizing the need for qualitative improvements in ODA efforts.[12]

▣ **[India] S&T POLICY NEWS**

○ **Government of India Boosts Domestic Semiconductor Manufacturing for Digital Transformation and Self-Reliance**

The Government of India is actively promoting the domestic semiconductor industry to support the country's digital transformation and self-reliance. With an estimated Indian semiconductor market size of \$38 billion in 2023, projected to reach \$109 billion by 2030, several initiatives have been launched.

Under the Semicon India Programme, the government approved a ₹76,000 crore budget to build a semiconductor and display manufacturing ecosystem. This includes fiscal support of 50% for projects in Semiconductor Fabs, Display Fabs, Compound Semiconductors, and Semiconductor Assembly, Testing, Marking, and Packaging (ATMP). The Design Linked Incentive (DLI) Scheme provides additional financial support to enhance product design and sales.

In parallel, the Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPECS) and the Production Linked Incentive (PLI) Scheme for Large Scale Electronics Manufacturing have incentivized investment in electronic components and mobile phone manufacturing, fostering domestic production. By June 2024, ₹8,803 crore in investments and ₹18,083 crore in production were achieved under SPECS, while PLI yielded

₹5,14,960 crore in production.

The government has also modernized the Semi-Conductor Laboratory in Mohali and focused on talent development, offering specialized programs in semiconductor engineering, including B.Tech and diploma courses in VLSI Design and Technology, and launching the Chips to Startup (C2S) Programme to train 85,000 engineers. These efforts aim to position India as a global semiconductor hub, fueling innovation and economic growth.[13]

○ **Government Boosts Science and Technology with Budget Hike and New Initiatives: Union Minister Dr. Jitendra Singh**

The Government of India, under the leadership of Dr. Jitendra Singh, has significantly increased the budget allocation for Science and Technology (S&T) research and development, highlighting its commitment to innovation and self-reliance. Key initiatives announced include:

1. **Increased Budget Allocation:** Successive increases in funding for scientific departments to support sustained growth in the S&T sector.
2. **Centres of Excellence:** Establishment of Centers in emerging fields within academic and national institutions.
3. **Mega Facilities:** Active participation in developing and utilizing large-scale scientific facilities.
4. **Extramural Research Funding:** Substantial grants to scientists for high-impact research.
5. **Critical Research Areas:** Focus on fields like clean energy, climate change, genome engineering, and smart grids, with scaled-up funding.
6. **National Missions:** Launch of missions such as the National Quantum Mission and National Mission on Interdisciplinary Cyber-Physical Systems to drive cutting-edge research.
7. **Innovation and Entrepreneurship:** Promotion of innovation and start-up ecosystems through entrepreneurship grants.
8. **Public-Private Partnerships (PPP):** Enhanced collaboration with private sector entities to boost research and innovation.
9. **Anusandhan National Research Foundation:** To increase R&D funding in collaboration with industry, fostering nationwide research efforts.

Dr. Jitendra Singh emphasized the importance of leveraging Corporate Social Responsibility (CSR) contributions for R&D, as mandated by the Companies Act, 2013, which requires large companies to allocate at least 2% of their profits toward CSR activities, including science and technology projects.

Additionally, the Ministry of Science and Technology has granted autonomy to its Autonomous Institutions (AIs) to drive R&D and has relaxed financial rules to facilitate efficient research procurement. Programmes like JIGYASA, in partnership with Kendriya Vidyalaya Sangathan, aim to engage school children with national scientific facilities,

fostering scientific temper from an early age.

These initiatives collectively aim to elevate India's scientific capabilities and support the country's journey toward becoming a global leader in science and technology.[14]

○ **India Launches Initiative to Propel Quantum Technology Startups**

On August 8, 2024, India unveiled a groundbreaking initiative to support startups in the quantum technology sector, under its National Quantum Mission (NQM). The program, led by the I-Hub Quantum Technology Foundation (QTF) at the Indian Institute of Science Education and Research (IISER), Pune, aims to propel the nation toward leadership in quantum research and development.

The Technology Innovation Hub (TIH) at IISER Pune has opened a call for proposals from innovative startups to join this rapidly evolving deep-tech field. The recently approved guidelines under the NQM detail eligibility, selection criteria, evaluation processes, funding mechanisms, and support facilities for startups.

Professor Ajay K Sood, Principal Scientific Adviser to the Government of India, emphasized the importance of the deep-tech startup policy in positioning India internationally in quantum technologies. He also noted the adaptive nature of the guidelines, which will evolve alongside advancements in the field.

The initiative aims to bridge the gap between research and commercialization, creating new job opportunities, stimulating economic growth, and fostering innovation in the nascent quantum technology sector in India.[15]

○ **IIT Mandi Establishes BioNEST Centre to Drive Biotechnology and Healthcare Innovation in the Himalayan Region**

IIT Mandi has launched the BioNEST-IIT Mandi Catalyst Centre, supported by a Rs. 5 crore grant from the Biotechnology Industry Research Assistance Council (BIRAC). This initiative is aimed at fostering biotechnology and healthcare startups, especially those addressing the unique social, economic, and ecological challenges of the Himalayan region.

Key Features of BioNEST-IIT Mandi Catalyst Centre:

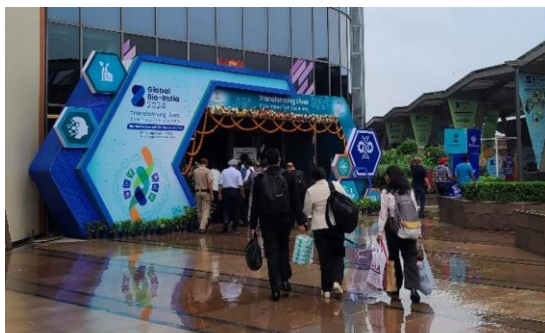
- **Focus Areas:** The centre prioritizes healthcare innovation, including affordable medical devices, regenerative medicine, and disease detection, as well as biotechnology, exploring new drug discoveries, bioactive compounds, and functional foods.
- **Research and Development Facilities:** Multidisciplinary innovation will be fostered through cutting-edge facilities that combine expertise from engineering, biological sciences, and healthcare.

The centre will collaborate with local healthcare providers, industry partners, government bodies, and academic institutions to build a vibrant ecosystem of innovation and sustainable development.[16]

▣ 'Global Bio-India 2024'

○ Global Bio-India 2024 (GBI 2024)

- ▶ Date & Place: Sep 12-14, Pragati Maidan in Delhi
- ▶ Subject: 'Biotech Innovation' and 'Bio-manufacturing'
- ▶ Fields: Bio-Pharma, Bio-Industrial, Bio-Services, Bio-Energy, Bio-Agri, MedTech
- ▶ Organization: Ministry of Biotechnology



[Global Bio-India 2024]

○ Government Boosts India's Biotechnology: Union Minister Dr. Jitendra Singh

- "Next Industrial Revolution will be Bio-economy driven"
- "India ranks 3rd In Asia Pacific and 12th globally in terms Bio manufacturing"
- "₹75000 crore valuation achieved by companies in biotechnology sector in 10 years"

- “Our priority is to empower the nation and its economy, irrespective of political compulsions”
- Dr. Jitendra Singh emphasized the government’s priority in boosting the bioeconomy.
- India’s bioeconomy has grown 13-fold over the last decade, from \$10 billion in 2014 to over \$130 billion in 2024, with a projection to reach \$300 billion by 2030.



[Inauguration and Super Sessions in the Global Bio-India 2024]

○ **Exhibition in GBI 2024**

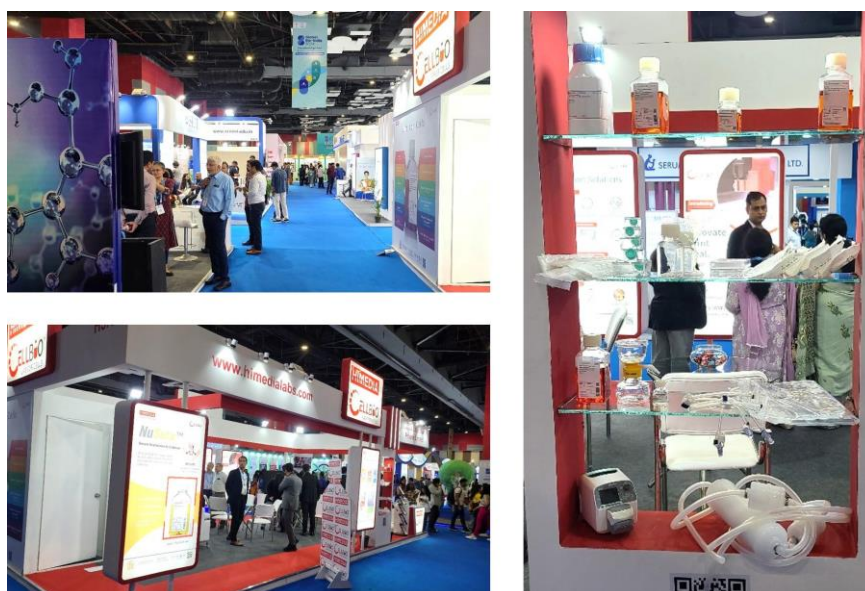
- Each state including PUNJAB and BIHAR and research institute including All India Institute Of Medical Science and Indian Institute of Technology Delhi exhibited their biotechnologies in the GBI 2024
- Various biotech company exhibition was displayed with their products and technologies.
- Especially, the launch of 11 new biotech products by Indian startups was highlighted.

○ **S. Korean Biocompany Exhibition**

- The KoreaBio and Korean biocompanies such as UMTR co. Ltd, BeyondCell, MicroDigital Co. Ltd, Xcell Therapeutics Inc exhibited their products and commercialized biotechnologies.



[State & Institute Exhibition with their biotech]



[Biotech Company Exhibition with their products]



[KoreaBio and Korean Biotech Company Exhibition with their products]

▣ Invited Lecture and S&T Cooperation in MNNIT-Allahabad

○ Invited Lecture and S&T Cooperation in MNNIT-Allahabad

- ▶ Date & Place: Aug 29, 2024, MNNIT Allahabad
- ▶ Dr. Young Ho Kim was invited and presented the nanotechnology lecture as an invited speaker in MNNIT Allahabad. Also the science and technology cooperation meetings were progressed with many professors of MNNIT-Allahabad.



[The invited lecture of Dr. Young Ho Kim and S&T meeting with many professors in MNNIT-Allahabad, India]

▣ India-Korea S&T Cooperation Meeting

○ Meeting with Nazareth Hospital

- ▶ Institute: Nazareth Hospital at Allahabad
- ▶ Date & Place: Aug 29, 2024, Nazareth Hospital
- ▶ Dr. Young Ho Kim was invited to Nazareth Hospital and discussed S. Korea and India cooperation in advanced medical technology fields. Hospital facilities including medical devices were introduced in this visiting.



[The S&T meeting of advanced medical technology in the Nazareth Hospital at Allahabad, India]

○ Meeting with IIT Varanasi

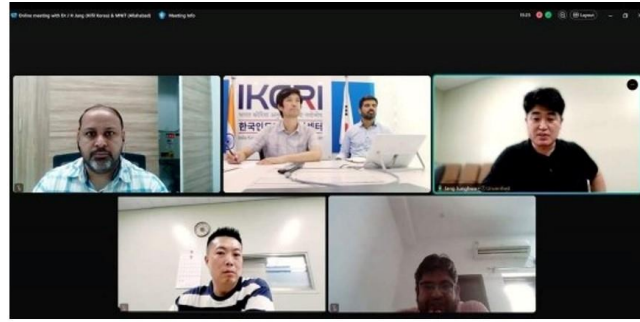
- ▶ Institute: IIT (BHU) Varanasi
- ▶ Date & Place: Aug 30, 2024, IIT (BHU) Varanasi
- ▶ Dr. Young Ho Kim visited to IIT Varanasi and took the valuable S&T cooperation meetings with their professors. Various advanced technologies including nanotechnology, energy, composites, microfluidics were discussed in the meeting.



[The S&T networking meeting in IIT Varanasi at Varanasi, India]

○ Meeting with Hifil and MNNIT-Allahabad

- ▶ Institute: (Korea side) Hifil, (India side) MNNIT-Allahabad
- ▶ Date & Place: Sep 2, 2024, Online
- ▶ IKCRI supported to take an India-Korea cooperation meeting with Dr. Jang from Hifil and Prof. Anjur Gaur from MNNIT-Allahabad. The advanced polymer membranes and their commercialization were discussed in the meeting.



[The S&T online meeting of polymer membrane technology with Prof. Ankur Gaur from MNNIT-Allahabad and Dr. Jang from Hifil in S. Korea]

○ Meeting with KAST

- ▶ Institute: The Korean Academy of Science and Technology
- ▶ Date & Place: Sep 4, 2024, IKCRI meeting room
- ▶ Ms. H.S. Kim from The Korean Academy of Science and Technology visited to IKCRI. Recent S. Korea's advanced S&T trends, policy and India-Korea S&T cooperation were discussed in the meeting.



[The S&T meeting with Ms. H.S. Kim from The Korean Academy of Science and Technology]

▣ India-Korea S&T Seminar [New Drugs & Medical Devices]

- ▶ Date & Time: Oct. 22nd, 10:30-12:00 (India) (14:00-15:30, Korea)
- ▶ Place: Online (Webex, IKCRI providing)
- ▶ Subject: Approval System of New Drugs & Medical Devices in India
- ▶ Speaker 1 (New Drug): Prof. Atul Batra (AIIMS)
- ▶ Speaker 2 (Medical Device): Prof. Bhushan Borotikar (Symbiosis Univ.)
- ▶ Organization: Embassy of the Republic of Korea, IKCRI

한-인도 과학기술 세미나
- 신약 & 의료기기 인도 인허가 절차 -

2024. 10. 22. (화) 14:00~15:30, 온라인 개최

주요사항

- 참석 대상 : 국내 신약 및 의료기기 등 바이오기업과 지원 기관 관계자
- 내용 : 국내 바이오기업의 인도 진출 지원을 위한 세미나 개최
- 참가 신청 : 이메일로 사전 신청(참가비 없음), 접수 후 온라인 접속 링크 제공
(신청 시, 참가자 성명, 소속기관, 직책, 분야(신약, 의료기기, 바이오 등), 연락처(전화, 이메일) 등 작성 요망)
- 신청 및 문의처 : info@ikcri.center (한-인도 연구혁신센터)

시 간 (한국시간)	구 분	내 용	발 표 자
13:50~14:00	온라인 접속	참석자 온라인 참가	
14:00~14:10	개회	개회	김영호 센터장 (IKCRI)
		인사말	정진현 과학관 (대사관)
14:10~15:10	신약 세미나	인도 신약 인허가 절차 및 규정 주요 내용(30분)	Atul Batra 교수 (인도 AIIMS)
	의료기기 세미나	인도 의료기기 인허가 절차 및 규정 주요 내용(30분)	Bhushan Borotikar 교수 (인도 Symbiosis Univ.)
15:10~15:25	질의응답 및 토의	인도 인허가 절차 관련 질의응답과 토의	참석자 전원
15:25~15:30	마무리	마무리 및 폐회	김영호 센터장 (IKCRI)

주관 주한인도대한민국대사관 | **한-인도 연구혁신센터**
Embassy of the Republic of Korea | India Korea Center for Research and Innovation

후원 koreaBio 한국바이오협회

■ References

1. 전기차 배터리 용량 4배 늘린 음극재 기술 나왔다, 조선일보, 2024-09-05
<https://www.chosun.com/economy/science/2024/09/05/IQLZCCQIQKJGWVIJAN2IRRCVLQ/>
2. KIST, 물 속 '이온농도' 정밀 예측하는 AI 기술 개발, 전자신문, 2024-09-08
<https://m.etnews.com/20240906000148>
3. 고려대, 고성능 페로브스카이트 태양전지 개발, 이데일리, 2024-09-06
<https://m.edaily.co.kr/News/Read?newsId=02876566639017496&mediaCodeNo=257>
4. 연세대, 암세포 표적 치료 위한 약물 전달 플랫폼 개발, 코리아헬스로그, 2024-09-09
<https://www.koreahealthlog.com/news/articleView.html?idxno=48135>
5. IIT K researchers achieve landmark visualization of key Cell Receptor for new Drugs against Infectious Diseases, The Statesman, August 1, 2024
<https://www.thestatesman.com/books-education/iit-k-researchers-achieve-landmark-visualization-of-key-cell-receptor-for-new-drugs-against-infectious-diseases-1503326958.html>
6. IIT Delhi Develops Two Pioneering Healthcare Technologies under NNetRA supported by MeitY, Telegraphindia, Aug 1, 2024
<https://www.telegraphindia.com/edugraph/campus/iit-delhi-develops-two-pioneering-healthcare-technologies-under-nnetra-supported-by-meity/cid/2037954>
7. CSIR develops durable battery for energy solutions in remote sub-zero conditions that would benefit defence forces, The Tribune, Aug 2, 2024
<https://www.tribuneindia.com/news/india/csir-develops-durable-battery-for-energy-solutions-in-remote-sub-zero-conditions-that-would-benefit-defence-forces/>
8. IIT Guwahati develops portable microfluidic system to replicate soil-like conditions, Telegraphindia, Jul 31, 2024
<https://www.telegraphindia.com/edugraph/campus/iit-guwahati-researchers-develops-portable-microfluidic-system-to-replicate-soil-like-conditions/cid/2037606>
9. 과기부 내년 예산 '18.9조원'...2023년 수준 회복, 투데이신문, 2024-08-28
<https://www.ntoday.co.kr/news/articleView.html?idxno=108973>
10. 인도 우수 개발자 103명, 국내 벤처기업 입사, 조선비즈, 2024-09-05
<https://biz.chosun.com/industry/business-venture/2024/09/05/ISMH5E5EEFBDTDK6BI4MAFIUBE/>
11. "2단계 사업으로 AI 실증도시 도약"...광주시·과기부, 'AI 실증밸리 정책토론회' 공동 개최, 전자신문, 2024-09-03
<https://www.etnews.com/20240903000388>
12. "고경력과기인, 과학기술 ODA로 국가에 기여", HelloDD, 2024-08-23
<https://www.hellodd.com/news/articleView.html?idxno=105179>
13. Government of India taking steps to encourage domestic manufacturing of semiconductors & promote country's digital transformation and self-reliance, Ministry of Electronics & IT, JUL 31, 2024
<https://pib.gov.in/PressReleaseIframePage.aspx?PRID=2039638>
14. Government Boosts Science and Technology with Budget Hike and New Initiatives: Union Minister Dr. Jitendra Singh, Ministry of Science & Technology, AUG 7, 2024
<https://pib.gov.in/PressReleaseIframePage.aspx?PRID=2042739>
15. India Launches Initiative to Propel Quantum Technology Startups, Knnindia, Aug 8,

2024

<https://knnindia.co.in/news/newsdetails/sectors/india-launches-initiative-to-propel-quantum-technology-startups>

16. IIT Mandi Establishes BioNEST Centre to Drive Biotechnology and Healthcare Innovation in the Himalayan Region, Timesnownews, Aug 2, 2024

<https://www.timesnownews.com/education/iit-mandi-establishes-bionest-centre-to-drive-biotechnology-and-healthcare-innovation-in-the-himalayan-region-article-112228787>

■ Acknowledgement

The cover page image is made by DALL-E from OpenAI.

■ IKCRI ‘India–Korea Sci News’ publication information

- ▷ Publisher: India Korea Center for Research and Innovation (IKCRI)
- ▷ Editors: Young Ho Kim, Anshul Joshi, Sourabh Sharma, Min Young Lee
- ▷ Publication Date: September 30, 2024
- ▷ Website: <https://ikcri.center/>
- ▷ Address: Unit No. 206, Worldmark I, Aerocity, New Delhi, 110037, India
- ▷ Email: info@ikcri.center