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SCIENCE & TECHNOLOGY NEWS FROM THE REPUBLIC OF KOREA, OCTOBER 2010

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A. Policies

Patent filings increase

(Joongang Daily of 01. 11, 2010)

Korea ranked first in terms of patent filings on a per gross domestic product (GDP) basis, the country's intellectual property office said yesterday. Korea also ranked first in terms of research & development (R&D) expenditures on a per GDP basis. Korea's patent filings came in at 102.6 cases per GDP as of 2008, followed by Japan with 82.2 and China with 26.6, the Korean Intellectual Property Office said. It cited its conclusions based on "the world intellectual property indicators," released by the World Intellectual Property Organization. Patent applications per R&D expenditures also topped the list with 3.3 cases, it added. In terms of trademark filings per GDP, Korea ranked second with 86.7 cases, trailing Chile with 104.9. Korea's application for industrial design came in at 56,750 cases, the world's third highest. When patent applications including foreign inventors filed under the Patent Cooperation Treaty were evaluated. However, Korea ranked 19th, indicating that the country is still lackluster in boosting cooperation in the R&D field.

Education minister ready for reform

(Joongang Daily of 01. 10, 2010)

The Ministry of Education, Science and Technology's teacher assessment policy will be one criteria used to allocate funding to 16 regional education offices nationwide, Lee Ju-ho, the new education minister, said in a recent interview on Tuesday. According to Lee, the schools will be eligible for government funding based on several criteria, including the school's ability to decrease dependence on private education, increased support for underprivileged children and creation of programs to build character and creativity. This year, the Education Ministry has provided 32.3 trillion won (\$28.3 billion) to education offices nationwide in the form of grants. The funds account for an average of 70 percent of each regional education office's total budget.

In his first interview since taking office, the minister was eager to speak about the much debated teacher assessment policy, which combines peer reviews with evaluations by students and parents. "If schools adhere to the four criteria of the teacher assessment policy - peer, student and parent assessments and interpretation of results - school principals and regional education superintendents will be allowed to create their own assessment questions and determine participation methods," Lee said. Under the policy, the minister said the autonomy of regional education superintendents would be respected but the superintendents would be equally accountable for their achievements as their shortcomings.

B. News

Firm devises world's first floating solar plant Oct 24

(Korea Herald of 24. 10, 2010)

A Korean venture firm has developed the world's first floating solar power generation system, which it says will heighten energy efficiency and reduce cost and damage to the environment. The technology developed by Solkiss uses a photovoltaic cell in a mold specially designed to rotate on a pond or reservoir, the company said. When the cell catches sunlight, it begins rotating and generating electricity while following the sun's movement. The Seoul-based firm said its new invention would increase energy-efficiency by 30 to 40 percent compared to existing solar energy generators. Unlike conventional cells placed on rooftops, in farmlands and on mountains, it does not need a huge site, thus minimizing impact on the environment, the company added. The scheme is the outcome of a three-year joint research project the Solkiss engineer team conducted with Chonbuk National University's New & Renewable Energy Material Development Center in North Jeolla Province, CEO Woo Do-young said. The firm obtained a domestic patent for the system and applied for international intellectual property rights, he said. "We're already in talks with some companies in Southeast Asia for plant exports," Woo said. "Our main target is overseas markets where demand for renewable energy is growing, virtually all PCT member countries including China and Japan." The Patent Cooperation Treaty provides multinational patent laws for its 142 contracting states under administration by the United Nations' World Intellectual Property Organization. The solar energy industry has grown at an average 40 percent rate over the past decade worldwide, until global recession hit the market in 2009, according to local think tank LG Economic Research Institute.

Korea widens lead in broadband quality

(Korea Herald of 18. 10, 2010)

Korea extended its worldwide fixed-line broadband Internet leadership and the U.S. held onto joint 15th place as the technology's speed and availability expanded, according to a poll carried out by Cisco Systems Inc. Korea, which has 100 percent broadband penetration, topped Cisco's list for the third year in a row. Fixed-line customers' broadband access in the U.S., which shared its ranking with four nations, rose to 75 percent this year from 69 percent in 2009, Cisco said in a statement. Internet-download speeds in Korea increased by 55 percent from a year earlier, said Cisco, the largest maker of routers and switches that direct Web traffic over networks. While the U.S. improved its broadband quality, it won't be fully prepared for technologies such as high-definition Internet television being developed by Apple Inc. and Google Inc. until next year, Fernando Gil de Bernabe, senior director at Cisco, said in a phone interview from Oxford, England. The broadband-quality rankings, developed by San Jose, California-based Cisco and the University of Oxford, measure the proportion of households and businesses with access to broadband, combined with Internet-connection speeds. The global quality score rose 24 percent, Cisco said. The U.S. held joint 15th place with France, Canada and Latvia. The U.K. declined one position to share 18th place with Germany and Estonia, as the list was expanded by six countries to 72 nations. Israel ranked 17th. Britain will "jump in leadership" next year as broadband providers roll out high-speed fiber networks, de Bernabe said. BT Group Plc, the U.K.'s largest phone company, is rolling out a high-speed broadband network. London-based BT said in May that it will spend 2.5 billion pounds (\$4 billion) on a fiber network serving two-thirds of the country's homes by 2015. Competitor Virgin Media Inc. is preparing to introduce 100 megabits-per-second broadband at the end of this year.

Cooperation between Hallym University Medical School and University of Padova

(Chosun Daily of 20. 10, 2010)

Hallym University Medical School had an Affiliation Agreement with University of Padova on October 18, 2010 and held the symposium on *Degenerative Neurological Disorders*

Ambition of Yonsei on fusion technology institute

(Yonsei University website of 14. 09, 2010)

Yonsei University will not only establish the "Future Fusion Technology Research Institute", which is headed by the former Samsung Electronics vice Chairman Lee Ki-Tae, but will also establish a globally combined engineering undergraduate college program in 2011 in order to educate and train "Da Vinci" style future innovative thinkers and brain powers. With mission statement of TIF (Technology+Imagination+Future), the curriculum will aim to fully incorporate all areas of technology, humanities and arts education. There will be three undergraduate years to complete and four years of combined Master's/Doctorate degree. The program aims to accept 30 students per year.

Yonsei will receive investment of 16,550 million won over the course of ten years, including corporation investment (9,240 million won), government investment (476 million won), and the school's investment (255 million won). Furthermore, the school will aggressively pursue and employ stellar faculty and search out brilliant student candidates. The school will hire 9 full time professors and add 12 more full time faculties, providing for the students the full scholarship, living expenses, 1:1 individual education and research curriculum, and the various international exchange programs.

KT, Samsung, Intel team up on WiBro venture

(Joongang Daily of 01. 11, 2010)

KT announced yesterday it will establish a consortium with Intel and Samsung Electronics called Wibro Infra Co. KT and Intel worked with major PC manufacturers to launch a new line of laptops and netbooks from Samsung, LG and Acer using Intel's WiMax technology, which allows Internet access without the need for plug-in USB modems. The deal is a boon for WiBro, both in Korea and abroad, as the alliance will allow the technology to expand in other countries. KT said that its telecommunications knowledge, Intel's chipset technology and Samsung's strength in hardware and global networks will help the alliance to advance into the global market. The nation's second-largest telecom provider also revealed plans to expand coverage of its WiBro service to 82 cities by March 2011, serving 85 percent of the Korean population. "It is truly an honor to partner with KT, [which] is one of the pioneering leaders in broadband technologies on a worldwide basis," said Sriram Viswanathan, vice president of Intel's Architecture Group. "Intel's goal is to bring a continuum of personal experience and bring various embedded technology to our products," said Viswanathan.

Intel Capital, Intel's global investment organization, invested \$20 million in Wibro Infra, while Samsung and KT invested about \$52 million and \$56 million, respectively. Intel said it is committed to leading the advancement of wireless broadband throughout the world, as more devices connect to the Internet.

Co development of Bio better between Korea and Sweden

(Maeil Business of 18. 08, 2010)

Ten Swedish scientists including Professor Mathias Uhlen of Royal Institute of Technology has decided with around ten Korean scientists to open a venture company in Korea, called Abclone. They will also open an office in Sweden. They will try to work on the development and commercialization of Biobetter. This is first establishment of joint venture company in this field with world class researchers involved.

Mathias Uhlen is Professor of Microbiology at the Royal Institute of Technology (KTH), Stockholm, Sweden. Dr Uhlen is member of the Royal Swedish Academy of Engineering Science (IVA), the Royal Swedish Academy of Science (KVA), the European Molecular Biology Organization (EMBO) and member of the Human Proteome Organization (HUPO) council. In the early eighties, Dr Uhlen cloned and characterized staphylococcal protein A, which is now used extensively for purification of antibodies both in diagnostics and therapy.

KAIST professor wins Good Design Award

(Korea Herald of 01. 11, 2010)

Industrial design professor Bae Sang-min and ID + IM Design Lab at KAIST received the 2010 Good Design Award in the category of living, a KAIST spokesperson said Oct. 28. Good Design Awards are given by the Japan Industrial Design Promotion Organization and regarded as one of four major design awards. The other three are the Red Dot and IF (International Forum) design awards in Germany, and the IDEA (International Design Excellence Awards) in the U.S.

His team's presentation, "Heartea," is an interactive tumbler which shows the temperature on a light-up heart on the side. With the Good Design Award, Bae clinched three of the four awards, all except for the IF, this year. Founded in 1957, the Good Design Awards, generally known as the "G Mark system," is Japan's only comprehensive design evaluation and commendation system. Bae and the design lab have donated all proceeds from product sales to a scholarship fund since 2006.