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Introduction

- - Academia Sinica announced eight new honorary academicians, including six Nobel laureates, among which Heinrich Rohrer from Switzerland. – Gene experts at Academia Sinica spotted a new referential indicator of liver cancers related to the hepatitis B virus. – An Academia Sinica team may be close to cancer vaccine. – Researchers at National Tsing-hua University increased the durability of the wiring in IC chips tenfold with the use of a new nano-manufacturing process (published in “Science”). – Researchers at National Chen Kung University Hospital in Taiwan completed the development of a movement assistance system for paralyzed patients that uses a brainwave detector to sense the user’s thoughts and directs its mechanical components to act accordingly.

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1. TLC's Lipotecan Anti-cancer Drug Being Phase-1 Clinical Trials

(Central News Agency, 31. 07. 2008)

Taiwan Liposome Co. (TLC), a new-drug developer on the island, recently announced that its new anti-cancer drug Lipotecan has been permitted by the Food and Drug Administration (FDA) of the United States to be clinically tested. According to the company, the Lipotecan is a chemically modified camptothecin designed to improve stability and potency and to minimize toxicity.

http://cens.com/cens/html/en/news/news_inner_24176.html

2. Cooperation for hepatitis C research

(San Francisco Business Times, 23. 07. 2008)

Genelabs Technologies Inc. (USA) will cooperate with a private Taiwanese biotech, Genovate Biotechnology Co. and the nonprofit organization "Republic of China's National Health Research Institutes" to find treatments for hepatitis C.

Article:

<http://sanfrancisco.bizjournals.com/sanfrancisco/stories/2008/07/21/daily45.html>

3. Brainwave assistant helps paralyzed people move

(Taipei Times, 11. 07. 2008)

Researchers at National Cheng Kung University Hospital in Tainan completed the development of a movement assistance system for paralyzed patients that uses a brainwave detector to sense the user's thoughts and directs its mechanical components to act accordingly.

Article:

<http://www.taipetimes.com/News/taiwan/archives/2008/07/11/2003417121>

4. New technology could help save energy (heavy oil emulsified)

(Central News Agency, 06. 08. 2008)

Lee Wen-jhy, a professor at National Cheng Kung University in Tainan City, demonstrated a test tube of heavy oil emulsified, using a technology developed by his research team and a tube of heavy oil not fully emulsified using existing technology for comparison. Lee said his new technology enhances the efficiency of heavy oil and could save the country NT\$30 billion in energy costs per year.

5. Local research institute debuts new technology (image recognition system)

(Taiwan News, 01. 08. 2008)

A local research institute debuted its latest applications of the image recognition system, demonstrating image-based multi-input interface and flying simulation. This image-based interface allows users to input computer commands by moving their hands, without having to use devices such as mice or keyboards," Industrial Technology Research Institute, said. The use of digitalization and computerization of body language into software instructions will be a growing trend. The two applications displayed by the ITRI are part of an NT\$70-million digital application project aimed at developing game innovations based on digital technology.

Article:

http://www.taiwannews.com.tw/etn/news_content.php?id=704526&lang=eng_news&cate_img=49.jpg&cate_rss=news_Society_TAIWAN



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6. Taiwan using RFID system to better understand fish products

(China Times, 23. 07. 2008)

(www.chinatimes.com)

The An Ping Live Fish Center in Tainan is applying technical platforms from the Institute for Information Industry and Microsoft in developing an RFID system that can be employed for live aquatic products. This revolutionary effort will let consumers review information about the fish they will soon be eating. A scanner will be required to scan the information on the aquatic products. Consumers will be able to see a full array of information on fisheries products, starting from fish fry until the fish have grown and are ready for the market. The data will also show delivery-related information.

Article:

<http://www.taiwanheadlines.gov.tw/ct.asp?xItem=128166&CtNode=39>

7. Taiwan develops new fuel cell technology

(Central News Agency, 12. 08. 2008)

Taiwan has successfully joined the world in developing a solid oxide fuel cell, which generates more power but conserves more energy, a local researcher said Monday. By 2010, local convenience stores and small supermarkets could be powered by the fuel cell if the government subsidizes the program, said Lee Chien-hsiung, the head of the Cabinet-level Atomic Energy Council (AEC) 's Institute of Nuclear Energy Research (INER) fuel cell program. Lee said the power efficiency of solid oxide fuel cells could reach 40-60 %, or over 90 percent if combined with heat. The power efficiency of general fuel cells is 20-35 %. The institute is the only organization in Taiwan that conducts research on solid oxide fuel cells, and the model developed is the culmination of five years of research, Lee noted.

Article:

<http://www.cna.com.tw/CNAeng/RealTimeNews/NewsDetail.aspx?strNewsDate=&strNewsID=200808120013&strType=JD>

8. Academia Sinica team may be close to cancer vaccine

(Taipei Times, 13. 08. 2008)

Using flow cytometry to examine cancer tissue, researchers found that both hexasaccharide Globo H and Gb5 are present in breast cancer stem cells, offering new hope in improved cancer treatment. Researchers at Academia Sinica have discovered that the presence of hexasaccharide Globo H and its precursor, Gb5, in cancer stem cells could help scientists develop a vaccine for breast cancer. A news release posted on the Academia Sinica Web site said Globo H has been used as a vehicle in developing an immunotherapeutic vaccine for breast cancer and has successfully passed phase-one clinical trials in the US.

Article:

<http://www.taipeitimes.com/News/taiwan/archives/2008/08/13/2003420195>
<http://taiwanjournal.nat.gov.tw/ct.asp?CtNode=122&xItem=44931>

9. Livestock institute touts success in science studies

(Taipei Times 21. 08. 2008)

The Council of Agriculture's Livestock Research Institute has three projects that could contribute to research on Parkinson's disease, improve cattle breeding and process fuel from feces. It unveiled the results of preliminary research in studies that could aid stem cell research on Parkinson's Disease, increase milk and dairy production during summer and turn cow dung into fuel.

Article:

<http://www.taipeitimes.com/News/taiwan/archives/2008/08/21/2003420979>
<http://www.taiwanheadlines.gov.tw/ct.asp?xItem=131321&CtNode=9>



10. Academia Sinica announces new honorary academicians

(Central News Agency, 14. 08. 2008)

Academia Sinica, Taiwan's most prestigious research institution, announced eight new honorary academicians, including six Nobel laureates. Three, in the division of mathematics and physical sciences, were named as Charles M. Vest, president of the National Academy of Engineering in the United States, who specializes in lasers and coherent optics, and Leo Esaki and **Heinrich Rohrer**, both Nobel prize winners in physics.

David Baltimore and Baruch S. Blumberg, both Nobel prize winners in physiology or medicine, were elected as honorary academicians in the division of life sciences.

The remaining three, who cross the division between life sciences, the humanities and social sciences are L. Luca Cavalli-Sforza, professor emeritus at Stanford University's Department of Genetics, and Leland H. Hartwell and Phillip A. Sharp, both of whom are Nobel laureates in physiology or medicine, the press release said.

The new honorary academicians, whose seats have been empty for more than 30 years, were elected by Academia Sinica's convocation, which is made of the institution's academicians in three divisions.

Related regulations that were amended last year stipulate that the life-tenure positions of honorary academicians have to be elected every two years.

The newly elected are tasked with promoting domestic and international academic cooperation and directing the research profile of the institution.

In addition to the eight honorary academicians, the Academia Sinica currently has a total of 249 domestic and foreign academicians.

Article:

<http://www.cna.com.tw/CNAeng/RealTimeNews/NewsDetail.aspx?strNewsDate=&strNewsID=200808140052&strType=JD>

<http://www.taiwanheadlines.gov.tw/ct.asp?xItem=131321&CtNode=9>

11. Experts make liver cancer breakthrough

(Taiwan News, 14. 08. 2008)

Gene experts at Academia Sinica have spotted a new referential indicator of liver cancers related to the hepatitis B virus, and the findings may prove helpful to the invention of new diagnostic procedures, sources at the renowned institution said.

The indicator, discovered by members of Academia Sinica's Genomics Research Center, involves a DNA examination of the genotype of hepatitis B virus. For example, if a patient is found to carry genotype C, the risks of cancer development will be as high as double that for those with genotype B.

Meanwhile, if mutations are found in the hepatitis B virus, the risks can increase or decrease, depending on which region develops mutations.

The risks are doubled if the mutation occurs in the basal core promoter; the risks will be reduced to the one-third of general standards if the mutated area is the precore region.

Article:

http://www.taiwannews.com.tw/etn/news_content.php?id=714554&lang=eng_news&cate_img=49.jpg&cate_rss=news_Society_TAIWAN

12. Taiwanese paper published in 'Science'

(Taipei Times, 23. 08. 2008)

COPPER FOILS: Researchers at National Tsing-hua University increased the durability of the wiring in IC chips tenfold with the use of a new nano-manufacturing process

The lifespan and durability of copper foils, which are widely used to conduct electric currents in integrated circuit (IC) chips, may increase tenfold using a new manufacturing process, so that even with the reduction in the size of foils in future computers, the foils would still be able to sustain usage, the National Science Council (NSC) said.

The breakthrough, which is highly applicable in industry, was published in Science magazine yesterday, making it the first Taiwanese paper in materials science to receive such recognition.



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Article:

<http://www.taipeitimes.com/News/taiwan/archives/2008/08/23/2003421201>

13. Taiwanese professors wins rare grant for cancer research

Chang Nan-shan of the Institute of Molecular Medicine at National Cheng Kung University (NCKU) Medical College in Tainan City won a grant from the breast cancer research program of the US Department of Defense, making him the first scientist in East Asia ever to obtain funding of this kind for his research on zfra, a zinc finger-like peptide that regulates programmed cell deaths, a NCKU news release said.

Article:

<http://www.taipeitimes.com/News/taiwan/archives/2008/07/11/2003417133>

25/8/2008