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The National Science Council (NSC) and the Department of Health (DOH) are the main resources for funding of research in medical care science and technology. DOH has made quite some progress in recent years, such as in the compilation of epidemiology data for aging and major diseases, vaccine research, disease screening, cancer prevention and control, long-term nursing care, the health care system, pharmaceutical control, pharmaceutical science technology, food sanitation and nutrition. Taiwan's efforts in hepatitis B prevention and control have earned it one of the highest ranking in the world.

Highlights of major news from the scientific world in Taiwan in June 2010:

A Taiwanese firm develops nanometer coffee yarn – research on arsenic contamination – Taiwanese-Irish to develop innovative solar cells – study identifies possible cause of osteoporosis – breakthrough in cleaner-fish breeder – Taiwan-made shirts from recycled materials worn by nine national teams in 2010 World Cup – Economics ministry funds Tainan embroidery R&D center – researchers breed larger fluorescent fish – funds approved to develop new NAND flash technology

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1. Taiwanese firm develops coffee-ground textiles

(Liberty Times, 07 06 2010)

Taiwan's new innovation, the "S Cafe nanometer coffee yarn" that is taking the world by storm, will be on exhibit at the Taiwan Art and Design Exhibition in London. This nanometer scale product has broad applications in apparel and household decorations, and major international sports brands like Adidas, Nike and New Balance, as well as global coffee chains like Starbucks have signed long-term cooperation agreements.

Noting this new market, Singtex Technical Fabric of Taiwan has taken recycled coffee grounds as raw material for textiles. The grounds are made into a product called "S Cafe nanometer coffee yarn" at temperatures of 180 degrees Celsius -- lower than the 600 degrees normally required for the production of nanometer textile products.

Full article:

<http://www.taiwanheadlines.gov.tw/ct.asp?xItem=192262&CtNode=9>

2. Medical geology research group sets up Taiwan chapter

(Central News Agency, 07 06 2010)

The Taiwan branch of an international medical geology research group will help strengthen research into arsenic contamination of the country's groundwater. Jean Jiin-shuh, a professor in National Cheng Kung University's (NCKU's) Department of Earth Sciences, said medical geology is a new fast developing research field that studies the effect of geological factors on the health of humans and animals. The professor hopes his group can focus on research on arsenic contamination and form a dedicated team to study the issue.

Full article:

http://focustaiwan.tw/ShowNews/WebNews_Detail.aspx?Type=aALL&ID=201006070043

3. Taiwan, Irish company hook up to develop innovative solar cells

(Central News Agency, 07 06 2010)

Taiwan's Industrial Technology Research Institute (ITRI) signed a memorandum of understanding with Solarprint Ltd. of Ireland to cooperate in the development of third generation solar cells.

Full article:

http://focustaiwan.tw/ShowNews/WebNews_Detail.aspx?ID=201006090022&Type=aECO

4. Study identifies possible cause of osteoporosis, hair loss

(Central News Agency, 11 06 2010)

A common type of protein modification could be a cause of various health problems, including osteoporosis and hair loss, according to the results of an international study led by Taiwanese scientists. The research, conducted on mice, reveals that defective palmitoylation resulted in hair loss, severe osteoporosis, cachexia, systemic amyloidosis and early death in the animals, Academia Sinica said.

The study, headed by Chen Yuan-tsong, director of Academia Sinica's Institute of Biomedical Sciences, and research fellow Jeffrey Yen, was published in the 10 June edition of international scientific journal PLoS Genetics.

Full article:

<http://www.taiwanheadlines.gov.tw/ct.asp?xItem=192906&CtNode=9>

5. Breakthrough made in cleaner-fish breeding

(China Times, 11 06 2010)

The National Museum of Marine Biology and Aquarium's "coral reef organism reproduction research project" recently achieved a major breakthrough in the breeding of Labroides dimidiatus, or bluestreak cleaner wrasse. Under the project, a research team at the museum in the southern county of Pingtung was successful in rearing fish fry of the



species in an artificial environment to the age of 53 days, setting a new world record in the process. There are five types of bluestreak cleaner wrasse located in regions around the globe, with three of them found in Taiwan's territorial waters.

According to Leu, the main difficulty in artificially breeding bluestreak cleaner wrasse is the fish's small mouth size and its consequent inability to feed on regular bait. If a suitable source of food is not provided to the fish fry, it can only survive for about three days by feeding on the yolk sac, he explained. Initially, the research team tried using rotifers — commonly called “wheel animals”— as a food source for the bluestreak cleaner wrasse. However, this proved unsuccessful as the fish fry are only able to feed on organisms that are under 50 microns (0.05 millimeters) in size, while rotifers are generally more than 200 microns. After trying a variety of different organisms, the team discovered by chance that the fish fry could feed on dinoflagellates, thereby solving the main obstacle to successful breeding of the bluestreak cleaner wrasse.

Full article:

<http://www.taiwantoday.tw/ct.asp?xItem=106741&ctNode=413>

6. Taiwan inventors top winners at international fair

(Liberty Times, 21 06 2010)

Taiwan inventors shined at the just-concluded Invention and New Product Exposition (INPEX) in Pittsburgh (USA), garnering more medals than any of the other 14 participating countries. The Taiwan delegation, featuring 42 members with 56 entries in the competition, grabbed 24 gold, 25 silver and five bronze medals as well as seven special awards. The youngest inventor from Taiwan taking part in INPEX was 13-year-old You Chun-po, who won gold for his “multi-angle ecological observation video camera.” You, who studied in the U.S. for five years, came up with the idea because he wanted to better understand the growth process of the silkworms he was raising. The easily rotatable camera that he developed with the help of a university professor features a lens that can magnify objects between 75-150 times.

Taiwan-based Auyata Enterprises Co. Ltd. won the “Asia-Pacific best product” prize at the event with its “folding stand.” The invention also garnered gold at the Geneva trade fair earlier this year.

Full article:

<http://www.taiwantoday.tw/ct.asp?xItem=107531&ctNode=445>

7. Taiwan-made shirts worn by nine teams in 2010 World Cup

(Central News Agency, 23 06 2010)

Nine of the soccer teams in the 2010 World Cup are wearing uniforms made of recycled materials manufactured by Taiwanese textile companies, the European Parliament magazine reported. The Taiwan sportswear supplied to the nine teams and retailers were made from 13 million recycled polyethylene terephthalate (PET) bottles, with each sports shirt requiring eight recycled PET bottles on average. The World Cup teams wearing the Taiwan-made sports uniforms are Brazil, the Netherlands, Portugal, the United States, South Korea, Australia, New Zealand, Serbia and Slovakia.

The manufacturing process involved breaking down the PET bottles which were then extruded into polyester fiber and spun into fabric, according to the Taiwan Textile Research Institute (TTRI). To color the shirts, the Taiwan manufacturers employed a dyeing technology that meets global green standards, which is an indication that Taiwan has become a world leader in that particular production area, the institute said.

Full article:

http://focustaiwan.tw/ShowNews/WebNews_Detail.aspx?Type=aECO&ID=201006230011

8. Asian University Top 200, Taiwan Universities Occupy 17

(Central News Agency, 12 05 2010)

QS Intelligent Unit, the English Higher Education Survey company, published their list of 2010 Asian University Rankings of the Top 200. Taiwan took up a total of 17 places with NTU (National Taiwan University) moving up one place to 21st. HKU (Hong Kong University) topped the list for two consecutive years. A total of 34 Taiwan universities



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were evaluated and 26 of which showed improvement." In general, the results of the rankings of the universities in Taiwan were positive, denoting that they had made significant progress. National Central University made the best improvement reaching 58th place against 77th last year. National Taiwan University of Science and Technology outstood itself among the other local universities climbing from 72nd last year to 56th this year. Feng Chia University rocketed up the table to 154th against 201st last year. National Chengchi University was the only school from Taiwan whose ranking dropped from 117th last year to 125th this year. Sowter indicated that NCCU distinguished itself in social sciences, and it had disadvantages in comparison with the other universities in terms of overall evaluation. The top five universities that improved their rankings are National Taiwan University (21st), National Cheng Kung University (31st), National Tsing Hua University (34th), National Yang-Ming University (41st), and National Taiwan University of Science and Technology (56th).

Full article:

<http://www-e.ntust.edu.tw/front/bin/ptdetail.phtml?Part=news99060401&Rcg=5>

9. MOEA funds Tainan embroidery R&D center

(Liberty Times, 22 06 2010)

Tainan University of Technology has established a Global Embroidery Research and Development Center to work on designing embroidery software to be used by a mechanical arm, and repairing old needlepoint and embroidered items. The institute is currently breaking down 1,587 stitching methods collected from throughout the world in specific categories for future digital management, and the school has already completed some 700 types.

The Ministry of Education stated that to encourage technical and vocational schools to establish special strengths, it has already provided financial assistance for over 1,100 such projects since 2001. Tainan University of Technology's Global Embroidery Research and Development Center is the only specialized body in Taiwan that combines academic studies, art and techniques related to embroidery, and it has recently extended its research to garments and bedding. The center features integrated fields of study from the College of Living Technology (Department of Fashion Design), College of Art (Department of Fine Arts), College of Management (Department of Business Administration), and College of Design (Department of Product Design). Modern scientific methods are applied in tandem with traditional craftsmanship to provide students with a cross-disciplinary understanding of the art and repair of embroidery. In addition to promoting professional expertise in the field, this will also help to preserve old embroidery and needlework.

Full article:

<http://taiwantoday.tw/ct.asp?xItem=107668&ctNode=413>

10. Taiwan teenagers win in Singapore RoboCup

(Central News Agency, 24 06 2010)

Taiwanese teenagers have again shone in an international robot competition, with three teams taking the top awards Thursday in various categories of the 2010 RoboCup. RoboCup is an international robotics competition founded in 1997. The aim is to develop autonomous soccer robots with the intention of promoting research and education in the field of artificial intelligence. The name RoboCup is a contraction of the competition's full name, the Robot Soccer World Cup. Although RoboCup chooses to use soccer as a central topic of research, the innovations developed can be equally applied to socially significant problems and to industry.

Full article:

http://focustaiwan.tw/ShowNews/WebNews_Detail.aspx?Type=aECO&ID=201006240040

11. Researchers successfully breed larger fluorescent fish

(Liberty Times, 28 06 2010)

A new generation of larger sized fluorescent fish developed in cooperation between the Council of Agriculture and Academia Sinica could light up aquariums around Taiwan and abroad within the next two years. The COA and Taiwan's top research institute have helped the island lead the global pack once again in gene transfer technology for fluorescent fish breeding. A private Taiwan biotechnology company developed small-sized fluorescent fish in 2001 and



later mass-produced them for the market. Field tests and the process of certification are expected to be completed some time next year, with commercial production of the larger fluorescent fish, including angelfish and cichlids, likely to begin as early as 2012.

Full article:

<http://www.taiwantoday.tw/ct.asp?xItem=108475&CtNode=419>

<http://www.taiwantoday.tw/ct.asp?xItem=108475&CtNode=445>

12. Taiwanese scientist to join China's Arctic survey group

(The China Post, 28 06 2010)

A mainland Arctic survey team will set forth from Xiamen (China) on 1 July and a Taiwanese scientist is invited for the first time to join the group. The team, 122 people in total, consists of scientists, logistics and the press. The members include people from the USA, France, Finland, Estonia, Korea and Taiwan, according to the China News Service (CNS).

Full article:

<http://www.chinapost.com.tw/taiwan/national/national-news/2010/06/28/262435/Taiwanese-scientist.htm>

13. MOEA approves funds for group to develop new NAND flash technology

(Central News Agency, 29 06 2010)

The Ministry of Economic Affairs (MOEA) gave approval for subsidies to be granted to an R&D alliance for the development of new NAND flash technology (up to 40 % of its total cost). The Taiwan Innovation Memory Co. (TIMC) was established in 2009 with government backing, in the hope that it would help restructure the country's DRAM industry, will receive government funding of up to 40 % of the project costs. Once the project is completed, Taiwanese companies will be able to source NAND flash technologies domestically instead of relying on major suppliers in the U.S., Japan and South Korea, if TIMC will be able to produced results.

Full article:

http://focustaiwan.tw/ShowNews/WebNews_Detail.aspx?Type=aECO&ID=201006290036

14. Students set record at IEEE awards competition

(China Times, 29 06 2010)

A National Chung Cheng University research team recently shone at the Institute of Electrical and Electronics Engineers Microwave Theory and Techniques Society awards by setting a new record of achievement at the competition. NCCU's Department of Electrical Engineering made history by becoming the first team ever to win a medal for three straight years at the event. Winning the award demonstrated the university's strength in circuit design.

Full article:

<http://www.taiwantoday.tw/ct.asp?xItem=108699&CtNode=445>