



31 January 2015

**Science, Technology and Education News from Taiwan  
Number 01 — January 2015**

A NTU undergraduate student had the opportunity to work with a Professor on a project about climate science. Their work was then published in the prestigious Science Journal.

The XYZprinting Inc. produced the “da Vinci”, a 3D printer that not only was granted a Nikkei Excellence Award for its affordable price, ease of handling and attractive exterior design, but also might become the future world leader of 3D printing.

Shih Hsin University launched a “human library” on the campus. It consists of group sessions from 30 to 120 minutes, where students can interact with academics that offer their knowledge on a wide range of topics.

An eco-friendly urban architecture design from National United University in Miaoli County was shortlisted as one of the 10 best projects at the 2014 Social Revolution Festival’s “Under the Bridge” competition in Russia.

A state-of-the-art Taiwan Photon Source center was opened in Hsinchu, with the goal of improving Taiwan's research and development competitiveness in the fields of biomedicine, nanotechnology, semiconductors and other areas of science.

**Contents**

<b>NTU undergraduate student gains publication in Science journal .....</b>	<b>2</b>
<b>NTU venture capital fund pays dividends .....</b>	<b>2</b>
<b>CES: HTC to design products for Under Armour's fitness app .....</b>	<b>2</b>
<b>Taiwan's 3D printer 'da Vinci' wins Nikkei excellent product award .....</b>	<b>2</b>
<b>SHU launches human library on campus .....</b>	<b>3</b>
<b>New seismology research center slated for Tainan.....</b>	<b>3</b>
<b>MediaTek straps into hot wearables with new chip .....</b>	<b>3</b>
<b>Taiwan-US study sheds light on species extinction.....</b>	<b>3</b>
<b>MediaTek to power Google audio streaming .....</b>	<b>4</b>
<b>Mao announces plans to encourage start-ups.....</b>	<b>4</b>
<b>Celebration of 60th anniversary of Taipei Language Institute.....</b>	<b>4</b>
<b>Taiwan's XYZprinting aiming to dominate global 3D printer market.....</b>	<b>4</b>
<b>IBM Taiwan, American Innovation Center partner on digital learning .....</b>	<b>5</b>
<b>NUU eco-park design honored in Russia .....</b>	<b>5</b>
<b>NTUT stages culture-themed graduation exhibition .....</b>	<b>5</b>
<b>Chunghwa Telecom, Acer to launch joint telecom platform .....</b>	<b>5</b>
<b>Taiwan Photon Source opens, expected to boost nanotech research .....</b>	<b>6</b>
<b>MOE names winners of student art competition .....</b>	<b>6</b>
<b>Taiwanese solar car team wins honors at Abu Dhabi Solar Challenge .....</b>	<b>6</b>
<b>Taiwan firms earn top 100 global innovation honors .....</b>	<b>6</b>



### **NTU undergraduate student gains publication in Science journal**

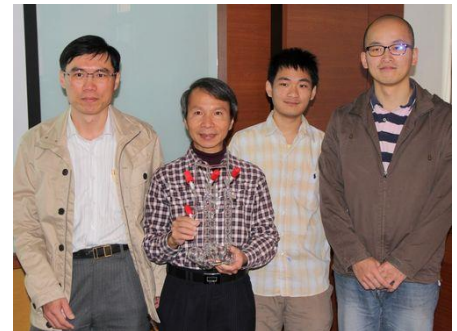
(Central News Agency, 06 01 2015)

A Taiwanese student at National Taiwan University (NTU) has gained international recognition as part of a research team whose work has been published in the latest edition of the prestigious Science journal. The paper on climate science appeared in the January edition of the journal, under the names Jim Jr-min Lin, Hsieh Jun-ting, Chang Chun-hung, and Chao Wen, an undergraduate senior at National Taiwan University who is majoring in chemistry.

Team leader Lin, a researcher at Academia Sinica's Institute of Atomic and Molecular Sciences, said the paper examined the interaction between water vapor and atmospheric molecules called Criegee intermediates (CIs), a reaction that is linked to acid rain. CIs are known to help break down chemical compounds that contribute to global warming.

Lin said that at first he was trying to give some young students an opportunity and asked Chao and some others to design an experiment. Chao, a graduate of Hualien Senior High School, entered NTU after he took part in a program that trains student candidates for the International Chemistry Olympiad, although he did not make the national team.

<http://focustaiwan.tw/news/ast/201501060031.aspx>



### **NTU venture capital fund pays dividends**

(Taiwan Today, 06 01 2015)

A National Taiwan University venture capital fund is making headway in bringing student-developed products to market and helping the institution's young inventors realize their potential. NTU Garage has assisted around 3,000 students in starting businesses over the past seven years. This number looks set to increase as the fund secures more tie-ups with foreign investors looking for promising Asia-based business opportunities.

Chen Liang-gee, vice president of NTU, said the fund has provided the means for students to establish and run 10 sustainable businesses. "Going forward, we hope 1 in 10 NTU graduates will join the ranks of the self-employed. "After all, NTU students should be generating employment opportunities, not taking jobs from others." Similarly bullish on the viability of the NTU initiative is Chen Ju-fen, CEO of NTU's Entrepreneur Center—a campus-based organization that helps students create new ventures. "The fund and center are inspired by a similar model employed by Stanford University in the U.S.," she said. According to the CEO, one of the most recent success stories involves an all-in-one 3-D printer designed by FLUX, a company headed by NTU undergraduates Simon Ko and Jim Yu.

<http://taiwantoday.tw/ct.asp?xItem=225956&CtNode=436>

### **CES: HTC to design products for Under Armour's fitness app**

(Central News Agency, 07 01 2015)

Taiwanese handset maker HTC Corp. and Under Armour Inc. (UA), an American sports clothing and accessories supplier, announced a strategic partnership that will add a newly launched fitness app to HTC's product line. HTC said in a statement that it is "designing a series of products" to work with UA Record, the new health and fitness app that UA launched at the annual Consumer Electronics Show in Las Vegas.

The app's features include motion and GPS activity tracking from mobile sensors and third party devices, analysis from individual workouts and a total snapshot of the user's progress -- including steps, sleep, caloric burn, heart rate and weight, according to UA. HTC CEO Peter Chou said that by joining forces with Under Armour, HTC was taking the first step in its campaign to give people deeper insight into their health and provide consumers with a range of health and fitness products and services that no other brand can match.

<http://focustaiwan.tw/news/ast/201501070006.aspx>

### **Taiwan's 3D printer 'da Vinci' wins Nikkei excellent product award**

(Central News Agency, 07 01 2015)

A Taiwanese brand won a Nikkei Asian Review Award for Excellence for the first time at the 2014 Nikkei Superior Products and Services Awards when XYZprinting Inc. took the honor for its 3D printer. The da Vinci 1.0 3D printer, which went on sale at stores in Japan in March 2014, won the award because of its affordable price, ease of handling and attractive exterior design, XYZprinting said.

Nikkei Inc. has been recognizing superior new products and services every year since 1982, when it launched the "Nikkei Outstanding Product of the Year Awards." The awards name was changed to the current name in 1987. Nomination is not based on public application or participation. Instead, Nikkei selects candidate products and



services on its own every September to November and then has a panel of judges select some 40 winning products and services at the end of the year.

Prior to earning a Nikkei award, the da Vinci 1.0 was selected for an Editor's Choice Award at the Consumer Electronics Show in January 2013. It also received Computex Taipei's Best Choice Award in June last year.

<http://focustaiwan.tw/news/ast/201501070016.aspx>

### **SHU launches human library on campus**

(Taiwan Today, 07 01 2015)

A human library was recently launched by Shih Hsin University, a move expected to better utilize the Taipei City-based institution's academics and provide enriched learning experiences for students. Drawing upon the faculty's extensive professional and extracurricular knowledge base, the initiative involves group sessions ranging from 30 to 120 minutes. Nonmainstream topics on offer include cappuccino-making, gardening, the life cycle of the Formosan black bear, meditation, tai chi, wine tasting and little-known facts about Chinese Communist Party leader Mao Zedong.

SHU Library Director Yeh Nei-ching said the human library is an innovative way of spurring interaction between academics and students while increasing library visit numbers. According to Yeh, the concept was first introduced in Denmark 14 years ago by Dany Abergel, leader of youth organization Stop the Violence. "The goal was to encourage dialogue and greater understanding among people from all walks of life," she said. Ho Tsung-wu, a professor with the Department of Finance, is one of the library's most popular "books" on the basis of his meditation instruction.

<http://taiwantoday.tw/ct.asp?xItem=225967&CtNode=436>

### **New seismology research center slated for Tainan**

(China Post, 07 01 2015)

Taiwan will construct a center in the southern city of Tainan for the research and development of earthquake resistant technologies, National Cheng Kung University (NCKU) said. The center will be constructed at a cost of NT\$1.3 billion (US\$46.65 million) and is expected to be completed by 2017, the university said at the groundbreaking ceremony on its Guiren campus.

Vice Premier Simon Chang, who chaired the ceremony, said the research at the center will focus on near-fault earthquakes, which pose a threat to 2.5 million buildings and a large percentage of Taiwan's 23 million population. The aim is to develop technologies that will provide better protection of people in the event of a major earthquake, he said, pointing out that more than 8.6 million people in Taiwan live within 10 kilometers of an active seismic fault.

<http://www.chinapost.com.tw/taiwan/local/tainan/2015/01/07/425896/New-seismology.htm>

### **MediaTek straps into hot wearables with new chip**

(The China Post, 08 01 2015)

Taiwanese semiconductor heavyweight MediaTek Inc. unveiled a new chip designed specifically for wearable devices running Google Inc.'s Android Wear operating system. The MT2601 system-on-chip (SoC), now in mass production and available to MediaTek's partners for sampling, comes with a small printed circuit board (PCB) size of less than 480 mm x 480 mm, MediaTek said in an English news release.

What makes the chip special is that it is built with "41.5 percent fewer components" and is less power hungry than similar SoCs for wearables on the market, said the Hsinchu-based company. MediaTek said the chip's small PCB size meets the design requirements of the widest variety of wearable devices in sports and fitness, location tracking, and various other categories.

<http://www.chinapost.com.tw/business/company-focus/2015/01/08/426000/MediaTek-straps.htm>

### **Taiwan-US study sheds light on species extinction**

(Taiwan Today, 08 01 2015)

A study on the extinction of passenger pigeons by researchers from Taiwan and the U.S. was the subject of a top 10 story for 2014 selected by Washington-based National Academy of Sciences. The paper Drastic Population Fluctuations Explain the Rapid Extinction of the Passenger Pigeon was published in the July 22 issue of NAS's Proceedings. It received wide media coverage, including Boom-and-Bust Cycles Doomed Passenger Pigeon carried in Nature magazine.

Led by Hung Chih-ming, a postdoctoral associate at Taipei City-based National Taiwan Normal University, the team comprised six other scholars from Academia Sinica, Taichung City-based National Museum of Natural Science, NTNU and the University of Minnesota.

According to the study, the number of passenger pigeons in North America went from an estimated 3-5 billion in the 1800s to zero in 1914, in contrast to conventional wisdom that enormous population size provides a buffer against extinction. And while human exploitation is often blamed, the role of natural population dynamics in the birds' demise remains unexplored.



Using ecological niche modeling, as well as DNA samples extracted from specimens at Bell Museum of Natural History in Minneapolis, the study suggests that the species was not always super abundant but experienced dramatic population fluctuations. In addition, ecological conditions could have also played a part in the bird's rapid demise.

<http://taiwantoday.tw/ct.asp?xItem=226021&CtNode=436>

### **MediaTek to power Google audio streaming**

(China Post, 11 01 2015)

Taiwan's MediaTek Inc., the leading chip supplier for Chinese smartphones, said it is collaborating with Google Inc. on a home audio streaming technology that enables users to access music quickly and easily.

MediaTek's audio system-on-chip (SoC), MT8507, will allow consumers to connect with Google Cast Ready speakers and sound bars from personal devices such as iPhones, iPads, Android smartphones and tablets, MacBook laptops and Windows PCs using Google Cast Ready apps, the company said in a press release.

The MT8507 is the industry's first connected audio SoC to support "Google Cast for audio" technology, allowing users to stream audio from Google Play Music, YouTube, Pandora, Rhapsody, iHeart Radio, TuneIn, Rdio and NPROne, according to MediaTek.

The Google Cast for audio technology is being demonstrated by MediaTek and Google at the International Consumer Electronics Show in Las Vegas, Nevada on Jan. 6 through 9. "In this Internet age, consumers are demanding a connected audio experience. The ability to connect devices and listen to music in a seamless manner is a basic need now," said Mohit Bhushan, vice president and general manager of U.S. business development at MediaTek.

<http://www.chinapost.com.tw/taiwan/business/2015/01/11/426221/MediaTek-to.htm>

### **Mao announces plans to encourage start-ups**

(China Post, 15 01 2015)

Premier Mao Chi-kuo expressed the day before his expectations for Taiwan to become an important base for the global link of creativity and begin undertakings, as well as to contribute to the constantly changing world. Mao made the remarks in an annual forum targeting start-up enterprises in Taiwan as well as the current opportunities and challenges Taiwan faces.

"Creativity basically creates value, and brings changes in the world. (Creativity) is meant to prove the value of its existence and to make the world a better place," said Mao. Taiwan should be shaped into a foundation for creative start-ups, and the government's role is to assist the country in becoming the stepping stone for prospective entrepreneurs. "(The government) may invest the national development funds in finding those who are able to integrate the new start-up system of the future generations, so Taiwan will be carved into a 'smart living' society," said Mao.

The young people's creativity has been reshaping the world, from Taiwan to everywhere else internationally; a wave of enthusiasm for starting their own undertakings has been taking over the world, said National Development Council (NDC) Minister Kuan Chung-ming. "This is why the NDC is making an effort to keep Taiwan's talents here in the nation."

<http://www.chinapost.com.tw/taiwan/business/2015/01/15/426533/Mao-announces.htm>

### **Celebration of 60th anniversary of Taipei Language Institute**

(China Post, 15 01 2015)

The Taipei Language Institute (TLI) celebrated its 60th anniversary and the 80th birthday of the founder, Marvin Ho recently with teachers, students and alumni came to attend this significant event from different places around the world, according to a press release of the TLI.

As the founder and the head of the school, Ho expressed his deepest appreciation to members of TLI that made the anniversary possible during the celebration. He also explained the importance of adapting to technology, as he wishes to take TLI to the age of NET 2.0 and online education. An award ceremony was held during the celebration as well, giving encouragement and prize for teachers and staff of TLI that strived for excellence in their work, said the TLI.

<http://www.chinapost.com.tw/taiwan/local/taipei/2015/01/15/426537/Celebration-of.htm>

### **Taiwan's XYZprinting aiming to dominate global 3D printer market**

(Central News Agency, 15 01 2015)

XYZprinting Inc., a unit of the Taiwanese electronics conglomerate New Kinpo Group, set a goal of becoming the world's largest maker of three-dimension (3D) printers this year. The company is expected to ship more than 100,000 3D printers worldwide in 2015, compared with around 30,000 units last year, its CEO Simon Shen said at a press briefing before New Kinpo's year-end party. "We have the capability to become the world's No. 1 and we must achieve that goal," Shen said. XYZprinting, founded in 2013, currently ranks as the second-largest manufacturer of 3D printers in the world, after Makerbot of the United States.



Shen said XYZprinting expanded its product range last year to food printers and a dual-color model with a scanner and will launch a "secret weapon" later this year to woo the market. He however did not give any details about the new product. New Kinpo Group Chairman Rock Hsu estimated that XYZprinting's revenue will increase this year by an annual 384 percent to reach NT\$2.2 billion (US\$69.3 million).

<http://focustaiwan.tw/news/ast/201501150018.aspx>

### **IBM Taiwan, American Innovation Center partner on digital learning**

(Central News Agency, 18 01 2015)

The American Innovation Center (AIC) in Taiwan has teamed up with technology firm International Business Machines Corp.'s (IBM's) Taiwan branch to jointly promote digital learning among Taiwanese young people. Under the new partnership, IBM Taiwan and the AIC Taiwan will jointly organize a variety of "Mini MBA" lectures throughout the year to introduce the latest trends in technologies and consumer electronics applications to improve Taiwanese young people's abilities to use digital tools, IBM Taiwan said in a statement.

Last year, some 100 volunteers from IBM Taiwan took part in nearly 20 weekend science classes hosted by the AIC Taiwan, serving more than 300 children under age 18. The AIC Taiwan was inaugurated in January 2014 by the American Institute in Taiwan (AIT) and the Taiwan Design Center at the Songshan Cultural and Creative Park in Taipei to promote digital learning that focuses on innovation, creativity and design. The innovation center, the first of its kind in Asia, is open to the public and equipped with computers, 3D printers, multimedia devices, books, DVDs and online databases.

<http://focustaiwan.tw/news/ast/201501180004.aspx>

### **NUU eco-park design honored in Russia**

(Taiwan Today, 19 01 2015)

An eco-friendly urban architecture design from National United University in Miaoli County was shortlisted as one of the 10 best projects at the 2014 Social Revolution Festival's "Under the Bridge" competition in Russia.

Dream within a Dream, Create a World in Between tackles the needs of people in the city of Yaroslavl, northeast of Moscow, for clean water and green space. It was designed by undergraduate students Pan Jui-yu and Syu Jie-siou under the guidance of NUU assistant professor Wu Shi-yen, who is pursuing a doctorate of architecture at National Taiwan University of Science and Technology in Taipei City. "Featuring a bioprocessing water treatment plant under the bridge, the design delivers functionality while creating a space for parkland," Wu said.

After making the shortlist at the festival, the project was voted No.1 in an online poll last December by Yaroslavl residents and global participants. Another entrant from Taiwan, Embracing a Zen Approach to Life by Wu and two other NUU students Gong Ren-fong and Li Wai-shing, also ranked among the top 10 in the poll.

<http://taiwantoday.tw/ct.asp?xItem=226457&CtNode=436>

### **NTUT stages culture-themed graduation exhibition**

(Taiwan Today, 21 01 2015)

The first graduation exhibition of National Taipei University of Technology's Department of Cultural Vocation Development is underway as part of NTUT efforts showcasing student creativity and talent.

Launched Jan. 12 at NTUT Art Center, "Multiple Awareness" features 17 projects by 43 students spanning apparel and papier-mache to pottery. While many of the eye-catching pieces are rich in artistic expression, some have promising commercial potential.

Department head Lin Feng-yi said all of the projects are praiseworthy, but fashion-themed Hsing Ching is the one most likely to make a splash in the market. "It offers modern products with strong ties to traditional Chinese culture." Established by Chang Hsiang-han, Chiang Min-chen, Kuo Han-wei and Lai Keng-ping, the project's clothing, eyewear, handbags and shoes incorporate patterns appearing in bronze wine cups and carafes from the Shang dynasty (1765-1122 B.C.).

<http://www.taiwantoday.tw/ct.asp?xItem=226631&CtNode=436>

### **Chunghwa Telecom, Acer to launch joint telecom platform**

(Central News Agency, 22 01 2015)

Chunghwa Telecom Co., Taiwan's largest carrier, teamed up with local computer maker Acer Inc. to jointly develop a cloud computing-based telecommunications platform for enterprises.

The partnership will integrate the resources and technologies of both companies to provide secure telecommunications services, intelligent private corporate telephone networks, and multimedia terminal equipment, according to a statement from Chunghwa Telecom. The new telecommunications platform will target domestic and international companies that are seeking more efficient and better integrated telephone network solutions, Chunghwa Telecom said.

<http://focustaiwan.tw/news/ast/201501220025.aspx>



### **Taiwan Photon Source opens, expected to boost nanotech research**

(Central News Agency, 25 01 2015)

A state-of-the-art Taiwan Photon Source (TPS) center was opened in Hsinchu, with the goal of improving Taiwan's research and development competitiveness in the fields of biomedicine, nanotechnology, semiconductors and other areas of science.

The Taiwan Photon Source will become one of the brightest synchrotron light sources in the world this year, Shangjr Gwo, director of the National Synchrotron Radiation Research Center, said at the opening ceremony, which was also attended by President Ma Ying-jeou.

The TPS has light sources that are over 1 trillion times the brightness of traditional X-ray sources, according to Lin Yi-bing, acting Minister of Science and Technology. With a 3 billion electron volt (3GeV) storage ring, the light sources at TPS travel near the speed of light and in 1.3 seconds, are able to circle the 518-meter-circumference storage ring 750,000 times, which equals the distance between Earth and the moon, Gwo said. He said his center is scheduled to complete five beamlines and their experimental stations by the end of 2015, with the ultimate goal of building 25 beamlines and 50 stations.

<http://focustaiwan.tw/news/ast/201501250011.aspx>

### **MOE names winners of student art competition**

(Taiwan Today, 26 01 2015)

The winners of the annual Life Map Art Competition were unveiled Jan. 23 in Taipei City, highlighting the robust talent of local students. Combining vivid imagery with words to capture the beauty of everyday life, the 49 pieces were selected from 826 submissions spanning the categories of elementary, junior high, high school and tertiary. The grand prize winner and top 12 finalists shared a cash prize of NT\$90,000 (US\$2,901).

"These students worked tirelessly to create their exceptional works," an MOE official said, adding that it is important to encourage and recognize the rising artists. According to the official, the grand prize went to 7-year-old Hu Cho-yen, the youngest winner in the event's history, for "Aesthetics Treasures Hidden in Life." The drawings document her life at Ziqiang Elementary School in New Taipei City's Zhonghe District.

<http://www.taiwantoday.tw/ct.asp?xItem=226773&CtNode=436>



### **Taiwanese solar car team wins honors at Abu Dhabi Solar Challenge**

(Central News Agency, 26 01 2015)

A solar car team from a Taiwanese university was awarded for innovation at the 2015 Abu Dhabi Solar Challenge despite coming under political pressure from China.

The Apollo VI Solar Car Team of National Kaohsiung University of Applied Sciences took the Shell Innovation Award's second prize in the cross-country road competition that took place in mid-January and started and finished in Abu Dhabi. The first prize for innovation went to university teams from the United Arab Emirates and the United States.

The Abu Dhabi Solar Challenge, the first event of its kind held in the Middle East, coinciding with Abu Dhabi Sustainability Week. It attracted 15 university solar car teams.

<http://focustaiwan.tw/news/ast/201501260026.aspx>

### **Taiwan firms earn top 100 global innovation honors**

(Taiwan Today, 27 01 2015)

Taiwan's Industrial Technology Research Institute and MediaTek Inc. were recently named for the first time in the 2014 Top 100 Global Innovators compiled by New York-based news and data provider Thomson Reuters Corp.

State-backed ITRI was recognized for its long list of scientific achievements. These include investing in applied research, software and services to help industries innovate and stay competitive, as well as transforming Taiwan from a labor-intensive industry into a value-added, technology-driven economy.

In addition, the Hsinchu County-headquartered outfit had 3,523 patents granted from 2009 to 2013 worldwide and recorded nearly 4,000 citations during the same period. ITRI Executive Vice President Chang Shuo-hung said that the award proves that in the fields of patents and intellectual property, ITRI is on par with its counterparts in Europe.

MediaTek, a Hsinchu City-based semiconductor company providing system-on-chip solutions for Blu-ray, high-definition TV and wireless communications, was included in the Top 100 Global Innovators on the strength of its innovative thinking for the 21st century and successful combination of new ideas with corporate strategy.

According to MediaTek Chairman Tsai Ming-kai, the technology environment has grown rapidly, making it immediately fulfill requests while ensuring lasting investment. "The challenge we face is how to strike the right balance between instant results and planning for the future," he said.

<http://www.taiwantoday.tw/ct.asp?xItem=226852&CtNode=436>