

Science, Technology, Education and Health News from China

Number 101 – November 2012

Please note that the previous newsletters can be downloaded from the website of the Embassy of Switzerland in China: www.eda.admin.ch/beijing¹. To subscribe/unsubscribe or send us your comments, please send an email with the corresponding subject to chenchen.liu@eda.admin.ch.

Introduction

This month's newsletter features the newly-established Nature Communication's editor office in Shanghai, the first office from a top-ranking academic journal in China. In science and technology, China's Tianhe-1 falls to the 8th in latest supercomputer ranking; Local auto brand BYD offers financing incentive to promote electric taxis; China moves ahead to open-up airspace. In education, a record high number of applicants took part in the civil servant exam in search for stable government jobs; recent job fairs have seen reduced opportunities for young foreigners seeking jobs in China. In health, China's ambitious plan for shale-gas development raises environment concerns.

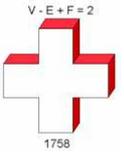
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¹ Please click on the blue texts to activate the hyperlinks to either email addresses or related websites.



Story of the Month

Nature Communication Moves to Shanghai

Nature Publishing Group (NPG) becomes the first top-ranked international scientific journal to be physically present in China by setting up its editor's office in Shanghai. Dr. Ed Gerstner and Dr. Congcong Huang have already moved from London earlier in November 2012 to become the Executive Editor and Assistant Editor of *Nature Communications* office in Shanghai. The team of editors is expected to expand in the coming months, according to the press release of Nature Publishing Group.

Nature Communications is a multidisciplinary online-only journal publishing high quality research across the biological, physical, chemical and earth sciences. Launched in 2010, the impact factor of Nature Communication has already risen to 7.396, ranked the 4th among global multidisciplinary sciences journal². Nature, the flagship publication of NPG, is ranked at the top.

The arm of Nature Publishing Group is already extended to China. Since May 2011, 3 publications of NPG, namely *Cell Death and Differentiation*, *Cell Death and Disease* and *Oncogene*, have been conducting part of the editorial businesses in China. Editors of NPG titles are regular visitors to Chinese research institutes and academic conferences, and the top Chinese academic journals, such as *Cell Research*, are in close contact with NPG.

Nature Publishing Index 2011 China has shown a consistent increase on the number of publications from China over the years. Chinese authors contributed 255 academic journals on the NPG publications in 2011, accounting for 6.6% of the total amount of journals. Journal Citation Report 2011 also indicated that 11.3% of the most highly cited journals are produced by Chinese authors, up from 1.85% in 2001, just a decade ago³.

Understandably, top journals like *Nature* are trying to be active to a country that is catching up rapidly in terms of academic publications but is still in need of support from external players. Gerstner confirmed in his interviews with local media, that the editor's office will focus on "author service" to Chinese researchers, guiding them in both content and in language. In a country where research is still primarily done in Chinese, language help would be specifically important and interesting for Chinese researchers who struggle to have their voices heard by their international peers. Author service would also be a key support to young Chinese researchers who just started their career, a group that NPC didn't have capacity to reach out to when they were not physically present. By integrating more to the Chinese science community, Chinese scientists would also have better access to interact with their fellow peers and be better informed on global opportunities.

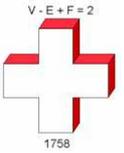
Setting up an editor office would also imply that more Chinese editors will have the opportunity to work for NPG, a world leading academic journal publishing group. It is also foreseeable that *Nature Communication* will engage more with Chinese academic journals. As China is endeavoring to improve the quality and reputation of its local journals that is being plagued by plagiarism and cash-for-publication deal, a group of experienced editors with an insight on how NPG functions and operates could definitely be very helpful in the long run for the entire academic journal sector of China.

"These are exciting times for Chinese science. I have had the opportunity to visit a number of labs and institutions in China over the past two years, and I am really impressed by the pace of development and increasing quality of research being conducted here. Our goal is to provide author services to researchers in China and bring this excellent research to a global audience through *Nature Communications* and other NPG titles. I am delighted to be a part of this endeavor⁴." Gerstner said so in his interview with the local media.

² 2011 Impact Factors, NPG, http://www.nature.com/npg/company_info/impact_factors.html

³ <http://www.guokr.com/article/384784/>

⁴ <http://ca.finance.yahoo.com/news/nature-communications-editors-join-macmillan-020000564.html>



News

1. **BYD Auto Lures E-Taxi Operators with Financing Incentive**

(Reuters, 04-11-2012)

Taxi operators in China interested in electrifying their fleet can pay the full price of BYD's e6 in installments, saving them the hefty upfront full payment they have to make for a gasoline-powered car, the Warren Buffett-backed Chinese car maker said in a statement. They can sign a rental agreement with financing firm or a third party taxi operator which own e6 and claim ownership of the car after the full payment is made. Taxi operators can also buy e6 through bank credit with zero down-payment, adding China Development Bank is the strategic financing partner for the new initiative.

Each e6 purchased through such arrangements would save a taxi operator RMB 326,477 in five years because of cheaper electric price, even though the e6 costs RMB 180,000 after government subsidies compared with RMB 10,000 for a gasoline car, it said.

BYD, which also makes the electric bus K9 and the plug-in hybrid F3DM, is seen as a domestic pioneer in green auto technology in China. Its e6 joined Shenzhen's taxi fleet in 2010, as part of pilot project initiated by China to put 5 million plug-in hybrids and electric cars on the road by 2020.

However, the electric car is still a rarity in Chinese cities due to the lack of charging facilities and the high battery cost. Last year, a mere 8,159 were sold across the country, including those for government pilot EV programs.

The safety of BYD's electric vehicles has been called into question after an e6 taxi caught fire in a fatal accident in May. A probe showed the lithium-ion phosphate battery that powers the car was not the cause of the fire and it was due to the high-speed collision, BYD said in August.

(<http://www.reuters.com/article/2012/11/04/us-byd-idUSBRE8A303520121104>)

2. **Supercomputer Ranking Offers Clues about Chips, China**

(WSJ, 14-11-2012)

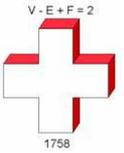
If doubts lingered about a major shift in supercomputer technology, the latest ranking of the 500 largest scientific systems should dispel them—as well as any fears that China might claim a lead in the field anytime soon.

The latest Top500 list compiled twice a year based on results of standard speed tests anoints a machine called Titan at Oak Ridge National Laboratory as the speediest on the planet. This wasn't too much of a surprise based on the lab's recent comments about the system.

Not until the eighth position on the list do we find a system in China. That machine, the Tianhe-1A, set off considerable hand-wringing among some researchers about threats to U.S. dominance when it took the No. 1 spot on the list in November 2010. But there seems to have been little progress since then; while machines like Sequoia and Titan have set new records, the Tianhe-1A is the only Chinese system in the Top Ten.

To be sure, China still ranks No. 2 in terms of the number of supercomputers installed, no small feat. But the country's 72 systems falls far short of the 251 running in the United States, while Japan which operates the No. 3 machine remains ahead of China in terms of the aggregate performance of the systems in use. Germany, in fact, placed two machines ahead of the Tianhe-1A—both supplied by IBM.

(<http://blogs.wsj.com/chinarealtime/2012/11/14/supercomputer-ranking-offers-clues-about-chips-china/>)



3. Record Numbers Flock to Take China's Civil Service Exam

(SCMP, 26-11-2012)

Hundreds of thousands packed out schools and universities across China on Sunday to take the national civil service exam, with record numbers registering in search of a stable government job.

More than 1.5 million people registered to take the exam, the *Beijing Times* reported, a record and more than 30 times the number sitting the exam a decade ago. This year test-takers are vying for about 20,000 government vacancies, state television said. The rapid expansion in recent years has been boosted by the perception that government jobs offer added stability and status, test-takers said.

Outside the Hujiaolou middle school in Beijing, one of dozens of test sites in the capital, Liu Ting, a 24-year-old student, stood clutching a red revision book containing lists of "hot" political jargon to be used during the test. "I am taking the exam because government jobs are more stable," Liu said. "There is basically no chance of losing a government job once you have one." Most candidates are university graduates, part of a massive expansion of higher education in China with almost seven million new graduates set to hit the job-market this year, the state-run *China News Service* said.

A 31-year-old woman surnamed Liu who worked as a quality inspector said she hoped to swap her private-sector job for a government post because "the benefits are better, and you don't need to worry about pensions or health insurance". Those who pass the exam will also have to pass a tough interview process before they can gain a government job. "It helps if you have family relations in the government, especially for getting central government jobs," Liu said.

China's current civil service exam is a descendant of the ancient imperial examination system known as the Keju, introduced in the 7th century and often regarded as the precursor of China's so-called meritocracy, or system of government based on merit.

This year authorities are on the lookout for cheaters, with anyone caught breaking exam rules barred from sitting again for five years, the *Beijing Times* reported.

(<http://www.scmp.com/news/china/article/1090562/record-numbers-flock-take-chinas-civil-service-exam>)

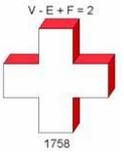
4. Environmental Frets as Frackers Move In

(Caixin, 20-11-2012)

China has no rules to protect groundwater and other resources from the potentially harmful side-effects of hydraulic fracturing, or "fracking." A Ministry of Environmental Protection source said the agency would need three to five years to write one. Nevertheless, a white paper on energy development released October 24 by the State Council calls for ramping up the industry and pumping 6.5 billion cubic meters of natural gas from underground shale formations by 2015. Complementary policy documents released by several central government ministries suggest the nation's ultimate goal is a huge fracking industry that extracts up to 100 billion cubic meters a year by 2020.

The model for China's anticipated success is the U.S. shale gas sector, which according to the U.S. Energy Information Administration grew 14 times in its first decade and last year produced 170 billion cubic meters of gas. Some Chinese companies have drilled test wells, although none so far has started a commercial operation. The potential is substantial, however, as geologists estimate the nation's recoverable reserves at about 25 trillion cubic meters, on par with the United States.

As development accelerates, said a source at the Geological Exploration Department under the Ministry of Land Resources (MLR), the government will likely introduce specific, shale gas drilling policies designed to protect the environment, particularly groundwater. However, according to an industry source, these anticipated policies are unlikely to be legally binding. Indeed, there was no mention of pollution prevention or water protection or even environmental issues in general written into official documents prepared for MLR's second official auctioning of shale-gas exploration blocks October 25. The government is leasing exploration rights in predetermined areas to the highest bidders.



All of the shale gas blocks auctioned so far are in southern China, such as Sichuan Province and Chongqing, where supplies of the water fracking demands are plentiful. Not included on the auctioneer lists of sites eligible for drilling were potential shale gas reserve areas in chronically dry parts of the country, such as Liaoning and Shaanxi provinces. Most of the nation's shale gas, say experts, lies in areas plagued by water shortages.

A gas industry expert said that drilling an ordinary horizontal well to reach natural gas requires about 1,000 cubic meters of water. But a single, shale gas extraction hole consumes more than 10,000 cubic meters. An industry expert said to reach the government's annual shale gas production goal of 6.5 cubic meters by 2015, up to 1,380 wells will have to be drilled nationwide, which altogether would require up to 13.8 million cubic meters of water. China's entire industrial sector currently consumes about 35 billion cubic meters of water a year.

Fracking not only consumes water but can put an entire underground aquifer at risk via the drilling process, which involves injecting fluids and chemicals deep into the earth. Improperly handled wastewater at a drilling site can likewise contaminate groundwater, rivers and lakes.

An environmentalist who spoke to Caixin on condition of anonymity said about 70 percent of all water used by frackers is injected underground and cannot be recovered. Yet contamination of groundwater that may otherwise be left untouched by injections can occur if a shale gas well casing ruptures or cement on a well cracks, releasing fluid with chemical additives.

Fracking's environmental risks have stirred controversy in the United States and other countries. France, for example, has banned fracking.

[...]

(http://english.caixin.com/2012-11-20/100462881_1.html)

5. **China's Job Market Tightens for Young Foreigners**

(NY Times, 12-10-2012)

There is a perception among some graduates from economically struggling Western countries that China is the new land of opportunity. But strong economic growth there might not mean good employment prospects for everyone. Foreigners, particularly those who do not have specialized technical skills or Mandarin fluency, may only be able find teaching jobs that pay less than what they might at home. Even those with quite good qualifications might have a hard time.

"There is this idea that China is up-and-coming so it is the place to go," said Adam Clark, 23, who is currently in an exchange program at Nankai University in Tianjin as part of a master's of Chinese studies degree at the University of Edinburgh. His program also covers international business, as well as Chinese politics, culture and media; but that still might not be enough. "In reality, I think it is a lot more difficult than that," he said. "Having two degrees — one in Mandarin and another in something else — and then only to be able to teach English is not entirely desirable."

According to the 2010 national census, there were about a million expatriates living in Chinese mainland, although almost half of those counted were residents from Hong Kong, Taiwan and Macau who had moved to the mainland. Of the 593,000 "foreigners", large numbers came from the rest of Asia: 120,000 from South Korea, 66,000 from Japan and almost 40,000 from Myanmar. Westerners made up a smaller portion, with 71,000 from the United States, almost 20,000 from Canada, 15,000 from France, 14,000 from Germany and 13,000 from Australia.

According to George Xu, chief executive of eChinacities.com, a Web site that provides employment and lifestyle tips for expatriates, 65 percent of their job postings were for English-teaching positions. The others were mostly related to information technology, sales and procurement management. The site has 50,000 résumés from expatriates in a database available to recruiters. Mr. Xu said that the site had 20,000 daily visitors. "For foreigners to find a job in China, there are still many obstacles," he said. "If you



don't speak Chinese and want to work in this country, it will be quite difficult." For positions that do not involve teaching English, near fluency in Mandarin is no longer an added bonus, but a prerequisite.

A generation or two ago, fluent English and overseas experience were considered special skills. Today, there are more qualified applicants on the market, particularly Chinese students returning with overseas university degrees, multiple languages and an international outlook. According to the Chinese Education Ministry, more than 70 percent of Chinese students who went overseas to study have returned home. There were 186,200 such returnees last year.

"The competition against local graduates or Chinese with a little bit of work experience is intense," said Andy Bentote, managing director for China at Michael Page, a recruitment agency. "The entry-level jobs or maybe second-jobber opportunities, there are just not as many of them. If you don't speak Mandarin and you don't have any Chinese work experience, it will be very difficult."

[...]

(www.nytimes.com/2012/11/13/world/asia/13iht-sreducjobfair13.html?pagewanted=1&r=0&ref=china)

6. China Forges Ahead with Airspace Opening-up

(Xinhua, 13-11-2012)

China will carry out reforms in 2013 to further open up low-altitude airspace to private airplanes with communication and surveillance facilities already built to ensure flight safety.

The announcement was made by Ma Xin, an official with the state air traffic control commission, at the 9th China International Aviation and Aerospace Exhibition that opened on November 13, 2012. The six-day event, in the southern city of Zhuhai in Guangdong Province, is attended by nearly 650 companies from 39 countries and regions.

Communication and surveillance facilities aimed to ensure low-altitude flight safety have been constructed in major districts of Changchun and Guangzhou and on the Hainan Island, according to Ma. Four general aviation flight service stations have also been put to use in Shenyang, Shenzhen, Hainan and Zhuhai to provide maintenance service. New regulations on airspace planning and operation as well as applications for general aviation flights are expected to be issued before the end of 2012.

"We are overhauling a series of regulations on airspace management to simplify the application procedures," Ma said. "As the reforms forge ahead, we believe the general aviation industry will gain momentum and become a new growth point just like the car industry."

Pilot projects have been launched in China's northeastern and central-southern regions, as well as seven cities, including Tangshan near Beijing, Xi'an, Qingdao, Hangzhou, Ningbo, Kunming and Chongqing, where airspace below 1,000 meters is open to general aviation flights.

In November 2010, the State Council and the Central Military Commission jointly decided to open up part of the country's low-altitude airspace for the first time. China now had about 1,198 aircraft used for general aviation purposes as of the end of 2011. Opening the airspace is expected to promote China's general aviation industry, including the purchase and use of private planes. There is potential for market growth in this area but it has been impeded by the country's restrictions on airspace use.

By 2020, the country will need 10,000 to 12,000 general aviation aircraft, according to China's civil aviation authorities. Related industries will form a market valued at about RMB 1 trillion.

(http://usa.chinadaily.com.cn/china/2012-11/13/content_15923948.htm)



Events (December 15th – January 15th 2013)

S&T, Education and Health-related Events in China

China Design Exhibition 2012

Date: December 7th to February 26th 2013

Place: Shenzhen

Contact: <http://www.chinadesign-cde.com/>

7th International Culture and Creative Industry Expo

Date: December 20th to 23rd

Place: Beijing

Contact: <http://www.iccie.cn>

Bo'ao Forum for Asia SME Development Forum 2013

Date: January 16th to 19th 2013

Place: Bo'ao

Contact: <http://www.boaoforum.org>

2nd CAE NEA Energy Forum

Date: December 18th to 20th

Place: Beijing

Contact: <http://energyforum.cae.cn/>

Swiss S&T, Education and Health Events in China

Swiss University Alumni Event – Shanghai

Date: December 5th

Place: Shanghai

Contact: Swissnex China

Swiss University Alumni Event - Beijing

Date: December 15th

Place: Beijing

Contact: Embassy of Switzerland in China