

SPOTLIGHT ON NANJING

Experimental reforms boost China's education epicentre

Educational and research pedigree, combined with a new governmental initiative, propels China's historic "southern capital" to new heights.

BY HUANG KUN and WANG JUEBIN

"IF I HAD a second life, I would still come back to China. And of all the cities in China, I would still choose Nanjing," says Wu Xuefeng, an astrophysicist at the Purple Mountain Observatory (PMO), in China's Jiangsu Province.

Wu was born in Jiangsu, and started his research career at the PMO in 2005 after graduating from Nanjing University. He left for further study in the US at the California Institute of Technology, Pennsylvania State University, and the University of Nevada, Las Vegas, before returning to the observatory in 2011.

One of his reasons for returning to Nanjing, the provincial capital of Jiangsu, is the make-up of the city. The cost of living and commuting isn't as high as

in Beijing and Shanghai, and the municipal government is constructing a number of new towns dedicated to science and education in the region. "Take Xianlin, the town where I live," Wu says. "There are university buildings, for research, as well as apartments and shops. It takes 15 minutes to walk from home into my lab. I don't have to worry about other things, and can dedicate myself to research."

This is an unsurprising move in a region of China famed for its educational and research output. Since becoming the capital of the Wu Dynasty in 229 AD, Nanjing has been at the political centre of ten dynasties in Chinese history. In the recent Qing Dynasty, although China was governed from Beijing

("northern capital" in Mandarin, to Nanjing's "southern capital"), more than half of the *Zhuangyuan*, the best performers in an exam held across the nation every three years, came from students taking the exam in Nanjing.

According to statistics from the Nanjing government, there are 53 universities and some 400 research institutes in Nanjing, which has a population of around eight million. The percentage of college students among residents here is the highest in China.

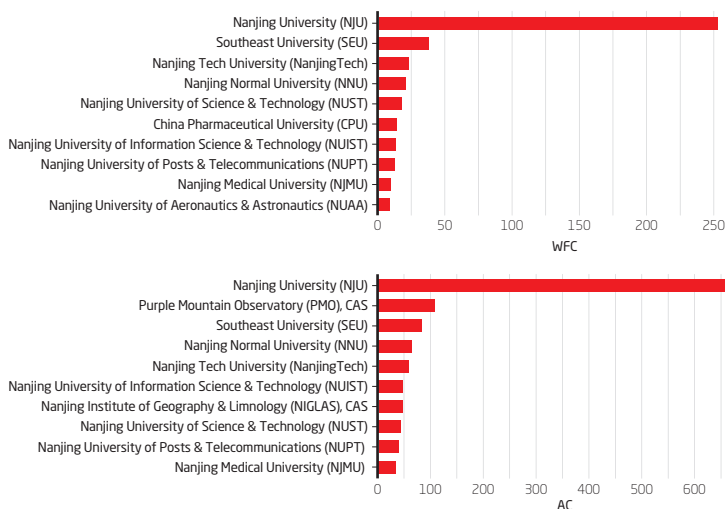
"All the talents in those universities and institutes compose an excellent framework for doing research in Nanjing, where you can easily find collaborators in various subjects, and that's the biggest attraction for me," says Wang

"After coming back to China, more than 80 percent of my important discoveries are from collaborations with other researchers in Nanjing."

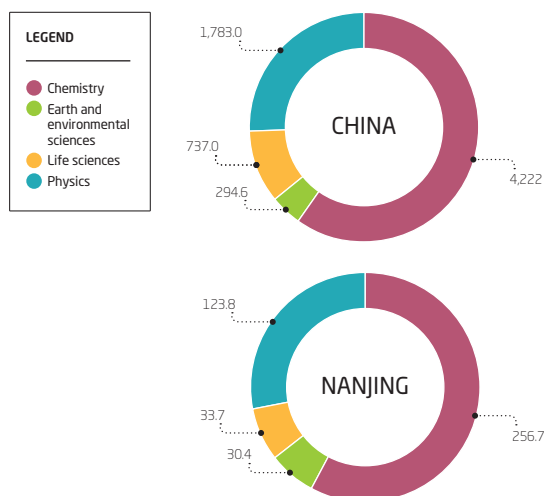
*Professor Wang Xinran
Nanjing University*

NANJING BY NUMBERS

Research output of Nanjing



Nanjing's 2015 research output closely resembles China's own



These data are from the Nature Index. The Nature Index database tracks the affiliations of high-quality scientific articles, and charts publication productivity for institutions and countries. Article count (AC) includes the total number of affiliated articles. Weighted fractional count (WFC) accounts for the relative contribution of each author to an article and applies a weighting to correct imbalances in the Index's subject coverage. Please see natureindex.com for more information.

Xinran, a professor of electronic science and engineering at Nanjing University. After finishing his PhD at Stanford University in the US, then joining another two labs in the US as a postdoc, Wang came back to Nanjing in 2011 and has since published some 30 papers on new materials in journals including *Physical Review Letters* and *Nature Communications*. “After coming back to China, more than 80% of my important discoveries are from collaborations with other researchers in Nanjing,” he says.

Nanjing University is the biggest player in the region, accounting for more than half of Nanjing’s overall research output. “The University has a long history in basic research,” says Wen Hai-Hu, a professor of physics there. “It trained Wu Jianxiong, for example, who worked on the Manhattan Project and was nicknamed the first lady of physics. Nowadays, Nanjing University is performing well in a lot of subjects, such as in condensed matter physics.”

The city also boasts an

astronomical legend in Wu Xuefeng’s institute — the Purple Mountain Observatory (see **Observatory on a purple mountain**).

Nanjing’s strength in science has won it a unique title — Experimental City of Comprehensive Reform of Science and Technology System. The system was launched by China’s central government in 2009 and Nanjing is still the only one with the title. “Nanjing is determined to grasp the opportunity of the reform,” says Huang Rong, a senior official in the Nanjing Municipal Science and Technology Commission (NMSTC), the body in charge of implementing policy

“We have an annual special budget of more than one million yuan (\$150,000) for buying the latest equipment.”

Wang Xinran

changes to science in Nanjing.

The reform is part of a larger country-wide strategy of “innovation driven development.” A series of policies have been outlined by the municipal government since 2009, including schemes to attract talent by increasing benefits for researchers, encouraging research investment by tax incentives, and allowing scientists at universities and institutes to start their own full-time businesses while retaining their academic positions for up to three years.

The reform has boosted Nanjing’s research capability, and investment in science in the region has increased rapidly. “We have an annual special budget of more than one million yuan (\$150,000) for buying the latest equipment in my lab — the National Laboratory of Solid State Microstructures at Nanjing University,” says Wang Xinran. “Even at Stanford they have old equipment. In terms of the research environment, we’re no longer worse than our international

peers; we’re even better in many ways.” With that support, Wang’s group has made significant advancements, such as the epitaxy of high-quality two-dimensional small molecule crystals for a variety of device applications.

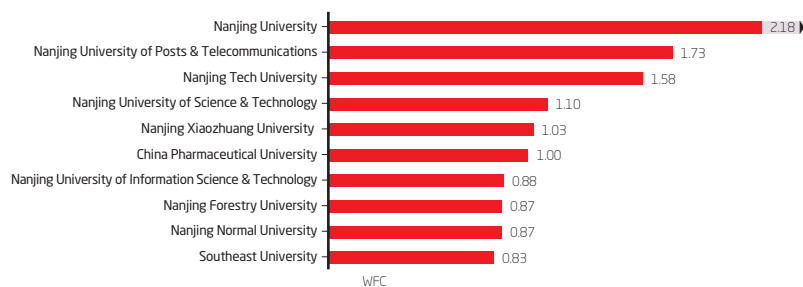
In some important projects, Nanjing is taking a leading role and attracts researchers from larger, wealthier cities like Beijing and Shanghai. Yuan Qiang, who worked at the Institute of High Energy Physics, Chinese Academy of Sciences in Beijing, chose to move to the PMO to continue his research. “We’re leading the project of the Dark Matter Particle Explorer satellite,” he says. The satellite, launched last December, is China’s first ever space observatory, and will use high-energy electrons and gamma rays to seek out dark matter; so far elusive to physicists and the rest of the scientific community.

In line with the rest of the world economy banking on science to drive growth, the reform in Nanjing emphasizes

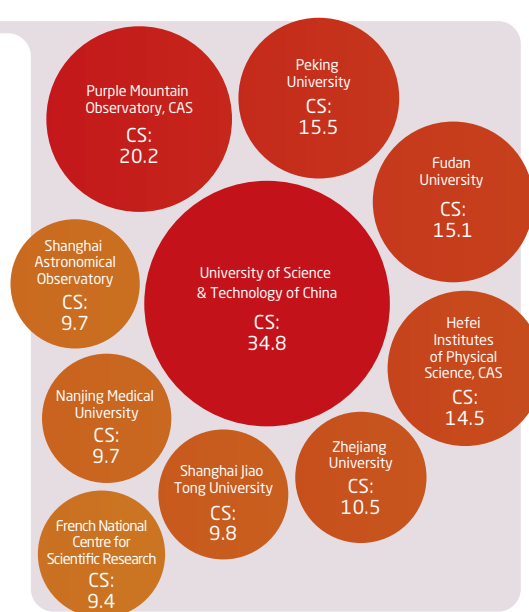
INSTITUTIONAL COLLABORATIONS IN NANJING

Whilst institutions indulge in a healthy amount of collaboration within China, global collaborations are rare in Nanjing.

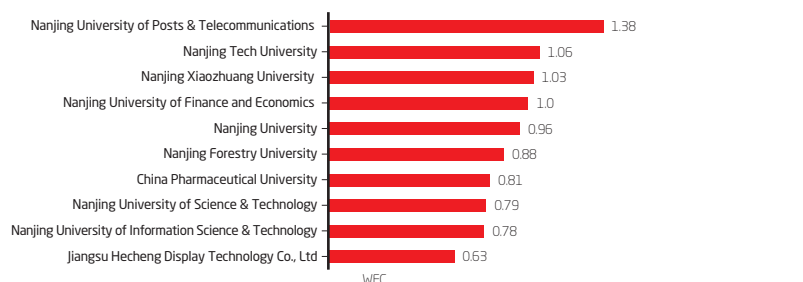
Top ten Nanjing institutions collaborating with mainland China



Collaboration scores: Nanjing University’s top ten*



Top ten collaborating institutions with Nanjing



*Collaboration score (CS) is the sum of fractional counts derived from bilateral partnerships between Nanjing University and its partners

translating science into business. One typical measure is the Sci-tech Innovation Voucher granted by the government to small companies, which can use the vouchers as cash to buy science and technology services.

“This is of great help,” says Zhang Fengming, a professor of physics at Nanjing University. He founded a company producing silicon solar cells in 2012, but didn’t get his product to market until 2015. When the company needed cash to sustain its research, he applied for vouchers worth 200,000 yuan (\$30,000). Now, he’s over the hump, and there are orders of 400 million yuan (\$60 million) waiting for him.

Statistics from the NMSTC show that since 2014, when the vouchers were launched, 531 companies have applied for vouchers worth 125 million yuan (\$18.50 million). That scheme has generated much more investment; expenditure in R&D in Nanjing almost doubled from 14.55 billion (\$ 2.15 billion) in 2010 to 29 billion yuan (\$ 4.3 billion) in 2015. A growth of patents in the region

is more proof that investment and government involvement is paying off. From 2010 to 2015, applications for invention grew at an annual rate of 25%. There were 27,173 effective Invention Patents (in China, patents are divided into categories) in 2015, which translates to an overall rate of 33 patents per 10,000 people in Nanjing.

Nanjing’s educational and research pedigree has guided it through centuries of political, social, and economic change. With new government-backed reforms and growth incentives, there’s every reason to think that the city will continue to flourish. ■

Huang Kun is a science journalist in the Department of International News of Xinhua News Agency. Wang Juebin is a science journalist in the Jiangsu Bureau of Xinhua News Agency. Both were working in a freelance capacity for this article.

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Observatory on a purple mountain

The Purple Mountain (named after its colourful geology) lies to the east of Nanjing, and holds a special status in Chinese history. Sun Yat-sen, the founding father of modern China, had his mausoleum built here. Years later, scientists also chose this as the site to establish China’s first modern astronomical institute — the Purple Mountain Observatory (PMO).

As the source of many subdisciplines of Chinese astronomy and subsequent astronomical institutes, the PMO is known in China as “the cradle of modern astronomy,” and is similarly respected in China as the Royal Greenwich Observatory is in the UK.

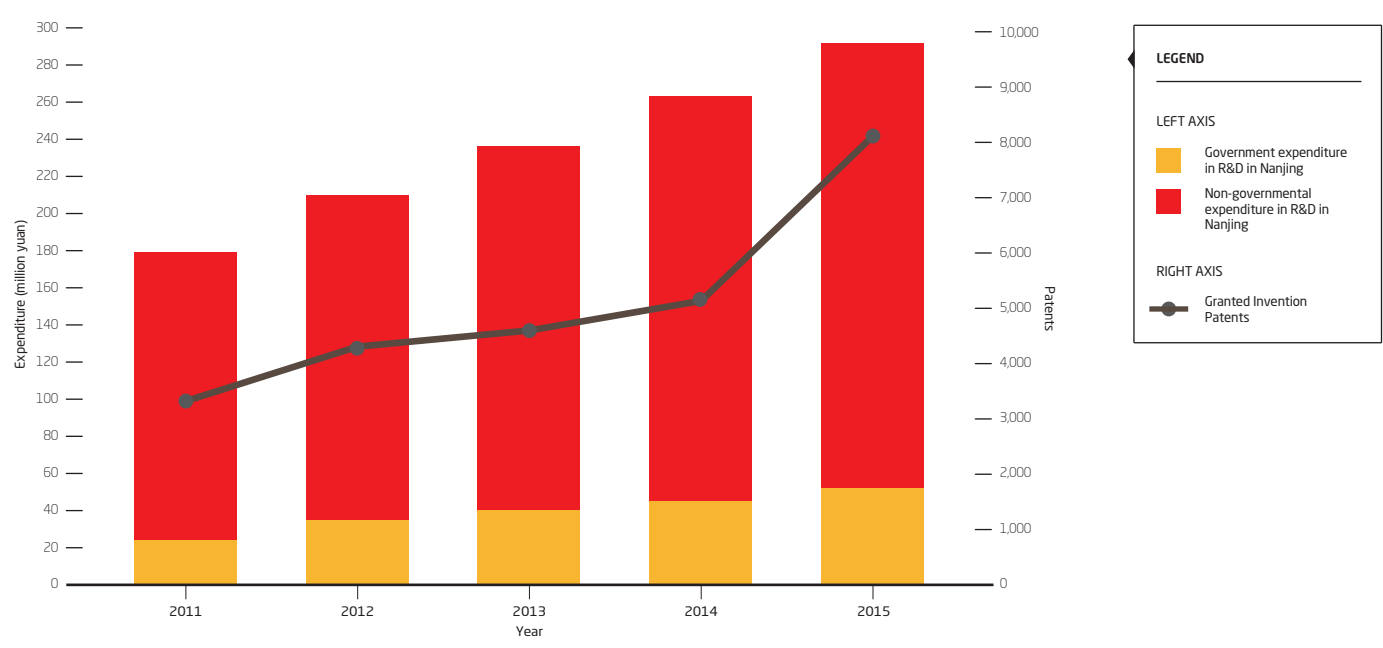
“Carrying this historical mantle, we keep exploring new scientific frontiers,” says Wu Xuefeng, a research professor at the PMO. He explains that currently the PMO is still one of the major astronomical institutes of China, with about 300 researchers and technicians. “There are four research divisions here: dark matter and space astronomy; Antarctic astronomy and radio astronomy; applied celestial mechanics and space objects and debris research; and planetary sciences and deep space exploration.”

At present, the PMO’s influence stretches far beyond Nanjing. One PMO-managed station is in China’s western Qinghai Province, which owns a 13.7m millimetre-wave telescope, the biggest of its kind in China. It even has a station on the other side of the globe, far from any light or chemical pollution, in the Antarctic Dome A, where construction is underway to build the Chinese Antarctic Observatory.

INNOVATION AND EXPENDITURE IN NANJING

As investment in Nanjing has increased, so have signs of innovation.

Expenditure and Granted Invention Patents, Nanjing, 2012-2015



Data from the Nanjing Municipal Science and Technology Commission.



Nanjing Tech University

Building a comprehensive research university with global reach

Nanjing Tech University, a comprehensive university with a focus on engineering, is striving to become a world-class university by expanding its multidisciplinary programmes, enhancing research excellence and promoting international collaboration.

Located in the culture-steeped city of Nanjing — an ancient capital of China — century-old Nanjing Tech University (NanjingTech) boasts a rich history and a solid reputation. Having nurtured a large number of talented researchers and achieved fruitful research results, NanjingTech is attaining global renown as a comprehensive university

with a focus on engineering. Staying true to the university motto of “honour the moral integrity, strive for excellence, persist in fortitude and combine learning and practice”, generations of NanjingTech students and staff have overcome many hurdles in exploring the frontiers of science. Their scientific achievements have benefited all of humanity.

In 2013, NanjingTech witnessed breakthroughs in its reform and development. Being the leading founder of the Synergetic Innovation Centre for Advanced Materials, it became one of the first 14 Chinese higher education institutions selected for the Plan 2011, a national programme that promotes innovation

in universities. To seize new opportunities for growth, the university has set the strategic goal of building a comprehensive, research-oriented and globalized university. At the moment, NanjingTech is striding towards its ambition to construct world-class academic disciplines and become a first-class university.

To attain these goals, the university is seeking to expand its comprehensive range of programmes. It currently has 11 faculties and 29 schools, covering eight academic disciplines: engineering, science, medicine, management, economics, law, humanities and arts. More than 30,000 students are enrolled in these programmes, and they are supported



by around 2,800 faculty and staff. To enhance its comprehensiveness, the university is deepening its reforms in key areas, which include setting up and tailoring academic programmes, enhancing student support and scientific research, as well as promoting development through cultural exchange.

Research lies at the centre of NanjingTech's push to become a world-class university. High-level research is being conducted by the university's elite research team, including 7 members of the Chinese Academy of Sciences and Chinese Academy of Engineering, 8 Cheung Kong Scholars sponsored by the Chinese Ministry of Education, eight chief scientists in charge of the national 973 Programme (National Basic Research Program of China), 19 researchers recruited under the state 1,000 Talents Plan and 11 awardees of the National Science Fund for Distinguished Young Scholars. The university also supports more than 50 key research-and-development institutions in various subject areas, five of which are at the national level. For instance, the state-certified National Centre for International Research of Flexible Electronic Materials and Devices and the State Key Laboratory of Material-Oriented Chemical Engineering are the leading centres in their fields. Another indicator of the university's dedication to research is its research budget, which has exceeded 3 billion RMB for the last decade, topping domestic universities of its kind. A large proportion of the science and technology research budget comes from state-sponsored projects, such as the National High-tech Research and Development Programme (863 Programme) and the National Basic Research Programme (973 Programme).

Since the beginning of this century, NanjingTech's strong research capacity has brought along numerous national awards, as well as international recognition. Thanks to the faculty's research prowess and high-quality publications, NanjingTech was ranked 46th among Chinese academic institutions, according to the 2015 table of Nature Index, an indicator of high-quality research.

Research highlights

- **Breakthrough in the research and development of organic optoelectronics by achieving an ultralong excited state in organic molecules under ambient conditions, which will enable wider application of organic phosphors. (Published in *Nature Materials*.)**
- **Successful development of a novel optical data encryption and decryption technology by synthesizing luminophores based on phosphorescent iridium (III) complexes, enhancing the security of information transmission. (Published in *Nature Communications*.)**
- **Fabrication of a perovskite light-emitting diode (LED), which has one of the highest energy conversion efficiencies in the world. (Published in *Nature Photonics*.)**
- **Innovation of using ultrathin nickel-based hydroxide as a feasible and effective encapsulation material for lithium/sulphur battery cathodes, significantly improving cell behaviours. (Published in *Nature Communications*.)**
- **Design of innovative, environmentally friendly equipment for the pulp and paper industry, achieving zero discharge of pulping wastewater with the application of the membrane technology.**

Geared towards globalization, NanjingTech actively cooperates with world-class universities so as to draw on their experience and to create an innovative higher education institution with its own characteristics. The university has established partnerships with more than 70 quality universities and research institutions in over 30 countries and regions to collaborate on scientific research and student training. For instance, a joint institute with the University of Sheffield has been established, which offers joint degree programmes in chemistry, financial mathematics and materials physics. The collaboration will extend to Masters and PhD programmes, as well as research projects. Other research collaborations include the joint laboratory of plastic electronics with the Imperial College London, the joint research centre on organic semiconductor with the University of St. Andrews and the nano and biomaterial research centre with the Nanyang Technological University, as a few examples.

Globalization is also exemplified in the university's recruiting strategy. Taking a human-resource-centred approach, NanjingTech is making an all-out effort to attract bright minds from around the world. In addition to flexible and vigorous talent recruitment mechanisms,

the university also adopts an innovative human-resource management mode with new incentive policies, a talent mobility system, an updated compensation assessment mechanism and all-rounded service support. All these efforts are in line with international standards and aim to create a supportive and stimulating environment where talented researchers can maximize their potential.

Against the backdrop of the full implementation of Plan 2011, NanjingTech is building top-class research platforms and cultural environment to attract and retain a high-quality faculty, whose intelligence and efforts will underpin the goal to build a comprehensive research university with global reach and true excellence.



南京工业大学
NANJING TECH
UNIVERSITY

Contact

E-mail: hr@njtech.edu.cn
Tel: 86 25 58139145
 86 25 58139143, 86 25 58139140
Website: <http://www.njtech.edu.cn>



Nanjing University

Leading the way in the physical sciences

Nanjing University is seeking solutions to the major challenges facing humanity as well as cultivating innovative researchers.

Founded in 1902, Nanjing University (NJU) is one of the oldest and most prestigious higher education institutions in China. In recent years, NJU has gained new vigour by meeting unprecedented challenges and opportunities. As a key comprehensive university with outstanding faculty, it has enjoyed coordinated development in the humanities, social sciences, natural sciences, technological sciences, life sciences, modern engineering and management. The Nature Index 2016 Rising Stars ranked NJU third among leading institutions globally.

Physical science advances

Physical science at NJU has a history of over 100 years. In recent years, physical science at the university has contributed significantly to the development of science and technology in China. The discipline of physics at NJU was ranked first in China in 2007 and 2012 by the Ministry of Education of China. Physical science at NJU covers a very broad spectrum of research areas, from cutting-edge technologies and national strategic priorities to fundamental physics.

NJU's three physical-science-related schools have 458 faculty members and supporting staff. Cross-school

laboratories and research centres boast world-class facilities and common platforms for researchers. Among them, the National Laboratory of Solid State Microstructures (NLSSM) aims to develop novel microstructured materials, find new macroscopic and microscopic quantum effects, develop related quantum-physics theories and methodologies, and meet the scientific and technological challenges of the post-Moore and post-petroleum era. In all assessments of State Key Laboratories, NLSSM has been rated as an excellent laboratory since its foundation in 1984. Furthermore, NLSSM has been assessed as one of the institutes in the Asian Pacific Rim (excluding Japan) that has been approaching world-class standards in research since the 1990s (*Nature* **389**, 113; 1997).

NJU researchers have made many important achievements. For example, Naiben Min and his team were awarded the 2006 National First Award for Natural Science for the research on dielectric superlattices; Xiangang Wan and team members proposed a new state of matter — the Weyl semimetal; Hui Liu led a group to invent a new experimental method to emulate the curved space of general relativity in metamaterials; Jia Zhu and coworkers developed a new technology to desalinate seawater and clean polluted water; Minghui Lu and group members discovered new solutions for acoustic topological insulators;

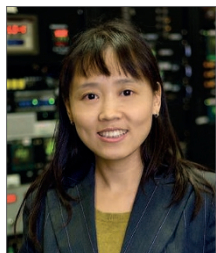
Yongbing Xu (director of the Nanjing–York Joint Centre) has developed the world's leading time-, spin- and angle-resolved photoemission spectrometer.

Internationalization

NJU's physical-science-related schools and colleges are becoming increasingly internationalized. Academic exchange and research cooperation flourish along with the establishment of joint institutions in more than ten countries. A new tenure-track-like system is being implemented for faculty recruiting, evaluation and promotion. During recent years, over 40 junior faculty members have been recruited from the US, UK, Europe and Japan, primarily through the prestigious National Thousand Global Young Talents programme. International summer camps and student exchanges have attracted many talented students to the division.

With generous support from the government and industry, physical science at NJU will produce not only world-class advances and technologies, but also nurture students and scholars who have a global outlook and the ability to meet the major challenges and opportunities faced by an increasingly globalized society. They will become leaders in shaping the future of China and the rest of the world. Committed to embracing this century of change, NJU encourages scholars and students from around the world to join it.

Why did you choose NJU?



Hong Lu

My expertise is molecular beam epitaxy (MBE), which can produce unprecedented materials. I was attracted to NJU because its physics programme is among the best in China and offers great opportunities for exciting research directions and collaborations. Both the general and research environments at NJU have enabled me to explore many new things.

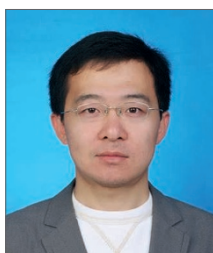
Jörg Götte

China is an exciting place for science. The College of Engineering and Applied Sciences at NJU embodies this enterprising spirit. It is a young college with international ties. My expertise and connections open up new areas and facilitate knowledge exchange. In return, I get to work in a research environment that allows me to test and develop new ideas with my colleagues.



Yang Yu

NJU is like a warm and comfortable home. I enjoy its history, culture and innovation spirit. Its friendly environment allows me to focus on my research. Its great research facilities, strong funding support and talented students and colleagues make NJU a most attractive places to do challenging and ground-breaking science in my field of superconducting quantum computing. I have never regretted joining NJU.



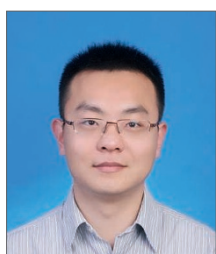
Feng Miao

I graduated from NJU in 2004. After studying and working in the USA, I returned to NJU through China's Thousand Youth Talents Plan in 2012. The support of this programme and the attractive starting package offered by NJU allowed me to build a competitive lab and conduct cutting-edge research. The physics programme at NJU is ranked one of the top in China. I have been surprised by the high quality of PhD students at NJU.



Shi-Liang Zhu

I moved to NJU as a senior professor in physics in 2013. At that time, I was provided with a very competitive start-up fund, large lab space and good research support. I especially appreciate the collaborative environment in the department of physics. I have built close collaborations. I've always considered my choice to move to NJU three years ago as an important step in my scientific career.



Xinran Wang

I graduated from NJU in 2004 with a BSc in physics. After spending seven years in two top research groups in the USA, I returned to China because it offers more opportunities for basic research. It was very natural for me to join NJU. I was able to quickly build my own laboratory, primarily focusing on two-dimensional materials. NJU is very strong in the physical sciences. My time at NJU has been very exciting and fruitful. I look forward to more and more young talented researchers joining us.

Edmond Turcu

I came to NJU to help build the new laser-driven femtosecond XUV beamline, which will enable electron motion in materials to be visualized with femtosecond resolution. We plan to use it to discover new materials with ultrafast properties. I enjoy working in my group at NJU, which brings together expertise in femtosecond lasers, XUV beamline, epitaxial materials growth, spin-ARPES analysis and pulsed laser deposition. I also enjoy teaching an undergraduate course on lasers in English.



Contact

E-mail: wudi@nju.edu.cn
Tel: 86 25 8359 3710
Fax: 86 25 8359 5535

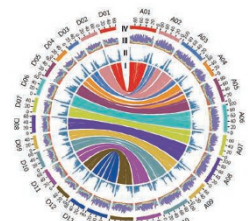
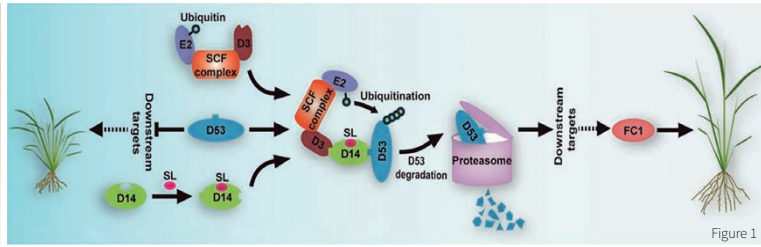


Figure 2

The State Key Laboratory of Crop Genetics and Germplasm Enhancement, Nanjing Agricultural University

Advancing research in crop genetics and breeding

A novel research platform with state-of-the-art facilities and faculty is leading the way in agricultural research.

The State Key Laboratory of Crop Genetics and Germplasm Enhancement was established in 2001 at the Nanjing Agricultural University (NAU), with the approval of the Chinese Ministry of Science and Technology. Geared to meet the global threat of food security, the laboratory is conducting cutting-edge research in agricultural science and promoting international collaborations. It is a modern and high-quality research and training base that leads crop science research in China.

Based on NAU's strengths in crop science, plant nutrition and olericulture, the laboratory focuses on three main research directions: genetic and genomic analyses of major breeding target traits, the genetic basis and creation of germplasm, and new breeding methods to make improved varieties of field and horticulture crops. It specializes in germplasm collection, evaluation and enhancement. Its collection of soybean germplasm is among top three globally. In recent years, the laboratory has also led or participated in key genomic research projects. The establishment of a bioinformatics centre further underpins its support for omics research.

Currently, average annual research budget of the laboratory exceeds 100 million RMB, of which, more than 70%

comes from grants for national projects. This strong funding has led to a series of achievements in both basic and applied research. The laboratory has published many high-quality papers in top international peer-reviewed journals. A study on the control of rice tillering was published in *Nature* (Figure 1), and studies on the cotton genome sequencing and cloning of a insect-resistant gene in rice were published in *Nature Biotechnology* (Figure 2). The laboratory's research also makes significant socioeconomic impacts. New germplasm and crop varieties the laboratory innovated not only provide research materials for basic research, but also serve as new resources for crop breeding. Successful commercialization of the laboratory's research achievements has already led to millions of RMB's economic benefits. With a supportive research environment, state-of-the-art equipment and enhanced capability of conducting national key projects, the laboratory has won numerous awards for its research achievements, with two to three national-level awards every five years.

The laboratory also offers ample opportunities of cross-institution and international collaborations. It houses the Sino-Australia Joint Laboratory, NAU-BGI joint Laboratory and a Collaborative Innovation Centre on Crop Genetic Resources. Collaborations with some world-class institutions have brought high-quality research output. The laboratory has organized multiple high-profile

international conferences, which have promoted its global influence. As a talent base under the Plan 111 by the Chinese Ministry of Education, the laboratory has established essential collaborations with world-famous scientists from different countries.

Talented researchers are key drivers of the laboratory's development. The laboratory boasts 86 faculty members, including three academicians of the Chinese Academy of Engineering, three National Science Foundation Distinguished Young Scholars, two Cheung Kong Scholars, as well as researchers recruited under the national 1000 Talent Plan and other national talent programmes. They conduct research on a wide range of crops, such as rice, wheat, cotton, soybean, brassica and maize, as well as vegetable crops. This makes the laboratory an ideal place for cross-team collaborations in crop science research.

With a talented team, the State Key Laboratory of Crop Genetics and Germplasm Enhancement at NAU is striving to become a world-class research centre for crop science. All scientists who are interested in crop science are welcomed to join us.



南京农业大学
NANJING AGRICULTURAL UNIVERSITY

Contact

E-mail: nationallab@njau.edu.cn
Tel/Fax: +86-25-84395526

Nanjing Agricultural University

Faculty positions at College of Veterinary Medicine

Nanjing Agricultural University (NAU) is seeking new faculty members in the discipline of veterinary medicine. Researchers working in the fields covered by the College of Veterinary Medicine (CVM) are eligible to apply. These include animal anatomy, histology and embryology, physiology, biochemistry, pathology, pharmacology, microbiology and immunology, parasitology, epidemiology, animal surgery, internal medicine, obstetrics and traditional Chinese veterinary science.

Veterinary Medicine in NAU is one of the national key disciplines. The CVM can trace its history back to 1921 when Southeast University established the department of animal husbandry and veterinary medicine. Up to now, the college has trained over 6,000 students. Tongsheng Sheng, member of the Chinese Academy of Sciences, is one of its famous alumni. The college has also edited some well-known textbooks, including *Animal Physiology*, *Animal Chemistry*, *Veterinary Microbiology* and *Veterinary Infectious Diseases*.

CVM at NAU houses departments of basic veterinary medicine, preventive veterinary medicine and clinical veterinary medicine, along with an animal hospital and the Experimental Animal Center. In 2014, the Institute of Immunology was established at CVM as a centre of excellence to support creative scientific research. CVM has also built excellent research platforms, including OIE International Reference

Laboratory for Swine Streptococcus, Key Laboratory of Veterinary Bacteriology, Key Laboratory of Animal Physiology and Biochemistry, High Technology Innovation Centre of Animal Disease Control by the Chinese Ministry of Agriculture, as well as Jiangsu Provincial Key Laboratory of Veterinary Immune Engineering.

Application process:

Qualified applicants are strongly encouraged to submit their applications electronically to Ms. Jiang Zhu (ZhuJ@njau.edu.cn).

Applications should include the following materials (in PDF format):

- A comprehensive curriculum vitae;
- A research plan and teaching plan (maximum two pages);
- Three references with contact information for the referees.

Benefits of working with us:

- Successful candidates will be provided a variety of jobs, including professors, associated professors and assistant professors.
- Nanjing Agricultural University will offer an internationally competitive salary and assist successful candidates in finding accommodation on or near the campus.
- The College of Veterinary Medicine will provide office and laboratory space as well as internationally competitive research start-up packages.



南京農業大學
NANJING AGRICULTURAL UNIVERSITY

E-mail: ZhuJ@njau.edu.cn

Telephone: 86 25 84395506

Fax: 86 25 84398669

Website: <http://cvm.njau.edu.cn>

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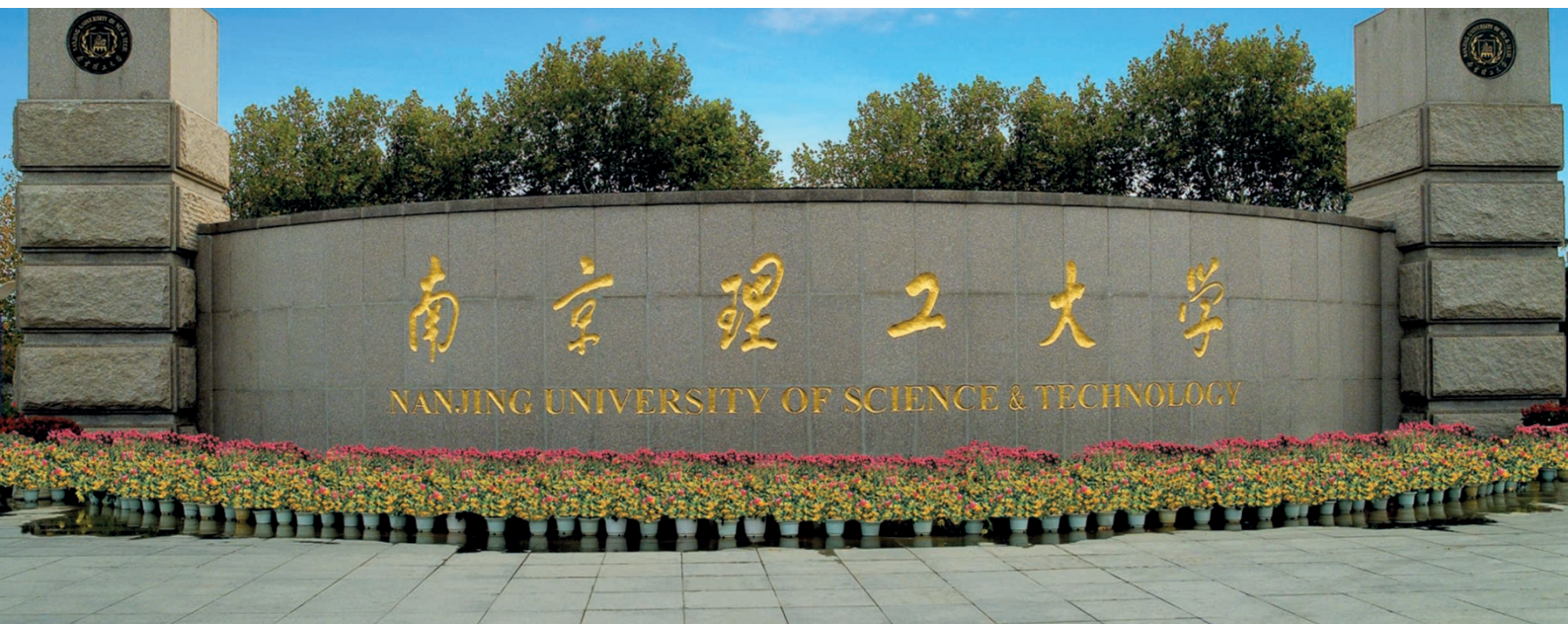
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Nanjing University of Science and Technology

Seeking talented researchers



Nanjing University of Science and Technology (NJUST) is a national key university listed in China's 211 Project and 985 Innovative Platforms for Key Disciplines Project. It has nine national key disciplines, four of which (engineering, chemistry, material science and computer science) are ranked in the top 1% in Thomson Reuters' Essential Science Indicators list.

With over 50 faculty members who are academicians of the Chinese Academy of Sciences or Chinese Academy of Engineering, Cheung Kong scholars or Thousand Talents Program scholars, NJUST has a state key laboratory, 13 provincial key laboratories, 7 provincial philosophy and social science research bases, 6 collaborative innovation centres and 9 international joint laboratories. Its average research funds have exceeded a billion yuan for the past five years. NJUST has received 16 national science and technology awards and 270 provincial ones.

Current opportunities and requirements

- Thousand Talents Program for Young Outstanding Scientists
- See relevant national policies for more information.

NJUST Selection and Hiring Program for Leading Young Talents

Applicants should have a doctoral degree from a prestigious overseas university or institution or a top university in China and be under the age of 35 for STEM fields or under 38 for humanities and social science fields.

NJUST backbone teacher

Applicants should have a doctoral degree from a prestigious overseas university or a 985/211 Project university in China and be under the age of 45 for professor positions, under 40 for associate professor positions or under 35 for assistant professor positions.

Compensation

1. Competitive salaries and start-up funds.
2. Inclusion in China's staffing system for government-affiliated institutions.
3. Professorship and priority for being considered for PhD supervisor positions for excellent applicants.

How to apply

To apply for positions, please download application forms from <http://rczp.njust.edu.cn>
Send completed forms via e-mail to the Human Resources Department.

Contact: Yang Meng, Cheng Dai and Xing Ge
Tel: +86-25-84315007
E-mail: my@njust.edu.cn and dc@njust.edu.cn



河海大学
HOHAI UNIVERSITY

Hohai University Leading the way in water-related disciplines

In Chinese, ‘ho’ means river and ‘hai’ refers to sea or ocean. Featuring research into rivers and oceans, Hohai University is rapidly advancing and leading water-related education and research. Established in 1915, Hohai University pioneered education and research in hydraulic engineering and water resources, being the first Chinese higher education institution dedicated to this area in China.

With a focus on engineering, Hohai University offers a comprehensive range of disciplines that span engineering, science, economics, management, liberal arts and law. It is particularly strong in the areas of hydraulic engineering and water resources. The university is home to two national-level research platforms — the State Key Laboratory of Hydrology–Water Resources and Hydraulic Engineering and the National Engineering Research Center of Water Resources Efficient Utilization and Engineering Safety, which form the bases of the innovative research that the university conducts.

Supported by key projects such as the State 211 Project and the State Advantageous Discipline Innovation Platform Project, the university is continuously striving to improve the quality of its education and academic output. It has become one of the most important bases in China for cultivating high-caliber, innovative researchers in the area of hydraulic engineering and water resources. Hohai researchers work throughout China on water-related projects.

Seeking talented professors and researchers

Hohai University warmly welcomes talented researchers to join us. More information is available on the university’s homepage (www.hhu.edu.cn) and the university’s Human Resources Department’s website (rsc.hhu.edu.cn). You can also contact us by phone: +86-25-83786205 (Mr. Xie or Ms. Xu, Human Resources Section, rscrcrk@hhu.edu.cn) or +86-25-83786484 (Mr. Li or Ms. Qiao, Talent Section).

Comments from the university president and leading experts

Hui Xu

(President of Hohai University)



“Our vision is to cultivate outstanding talents with a global view, an appreciation for things Chinese, and Hohai’s high standards. We aim to develop Hohai University into a distinctive and world-class research university by the middle of the 21st century.”

Edward Sudicky

(Fellow of both the Royal Society of Canada and the Canadian Academy of Engineering, tenure-track professor at the University of Waterloo, and internationally renowned scholar in the field of hydrology and water resources)



“I was appointed by Hohai University as a foreign expert under the 1,000 Talent Plan. The university provides me with an excellent research platform and builds a professional research team for me. This is a group of very smart, hard-working and highly motivated researchers. As a result, I have made significant progress in the development and

application of a hydrosystem model.”

Zhongbo Yu

(Distinguished professor in the 1,000 Talent Plan)



“I came back to China as a Cheung Kong Scholar in 2005 and then was selected under the 1,000 Talent Plan. My research focuses on the impact of climate change and human activities on hydrologic processes in watersheds. With the help of the State Key Laboratory of Hydrology–Water Resources and Hydraulic Engineering, we recently gained funding from the Chinese Ministry of Science and Technology for an exciting project integrating geoinformatics, cyberinfrastructure and big data in watersheds and remote measurements, which will address key challenges in the field.”

Ling Li

(Distinguished professor in the 1,000 Talent Plan)

“I was initially a bit hesitant to apply for the Cheung Kong Scholar position at Hohai University from the University of Edinburgh



in 2003, because my classmates from Tsinghua University thought that I should return to Tsinghua where I graduated with my BEng degree. But knowing Hohai’s great strength in hydrology and hydraulics, I decided to join Hohai. Over the years, I never doubted the wisdom of this decision. I am enjoying working at Hohai and am grateful for the great support I get from the university and colleagues.”

Vagner Ferreira

(Associate professor at the School of Earth Sciences and Engineering)



“I joined Hohai University in February 2011. I am finding it a rewarding experience because of the opportunities I have to meet inspiring people and to explore limitless research possibilities. I think Hohai University offers an energetic and enthusiastic atmosphere for researchers from different fields to team up and overcome their individual scientific challenges.”



State Key Laboratory of Palaeobiology and Stratigraphy

Ground-breaking research at Nanjing

Cutting-edge research is being conducted in the fields of palaeobiology and stratigraphy at a well-established State Key Laboratory in Nanjing.

The State Key Laboratory of Palaeobiology and Stratigraphy (LPS) was established in 2001 under the auspices of the Ministry of Science and Technology of China (MSTC). It is an important research unit in the Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences (CAS), which was founded in 1951 with Li Siguang (J. S. Lee) as its founding director. LPS is also the only State Key Laboratory in China devoted to palaeontological and stratigraphic research. Since 2001, it has been consistently rated as an excellent laboratory among the 46 State Key Laboratories in the field of Earth science in China.

Current topics of active research at LPS include comprehensive stratigraphy, evolution of early life on Earth, evolutionary patterns of Palaeozoic marine biodiversity, development and evolution of terrestrial ecosystems, and the environmental background of major biological evolution events.

LPS members have made globally renowned research findings, especially in the areas of the early evolution of life and the Cambrian explosion, global boundary stratotype sections and points, and biological radiation, extinction and recovery

during major geological periods. Over the past 15 years, LPS staff have published more than 1,600 research papers, many of which were in highly influential journals such as *Science* or *Nature*. They have been awarded one first prize and two second prizes of the National Natural Science Awards and have seven of their achievements have been rated as Top-10 News Stories in Basic Research or Top-10 Scientific Breakthroughs in China.

LPS houses many modern facilities to support cutting-edge palaeontological and stratigraphic research, including a scanning electron microscope equipped with an energy-dispersive X-ray spectroscope, a non-destructive X-ray microscope, a confocal laser scanning microscope, a genetic

analyser, a MAT253 stable isotope ratio mass spectrometer, a DELTA V isotope ratio mass spectrometer, a TSQ Quantum GC gas chromatography-mass spectrometer, an ICP-MASS spectrometer, an ICP-OES spectrograph, and a laser ablation system, in addition to conventional palaeontology labs.

As one of the most influential research centres in palaeontology and stratigraphy in the world, LPS offers a platform for international academic exchange, research collaboration and cooperation in graduate education. Its visiting scientists and postdoctoral programmes are open to scientists worldwide. Anyone interested in collaborating with LPS or the institute is encouraged to contact us.

LPS: A galaxy of talented researchers

Currently, LPS has 45 staff members, including technicians and administrative assistants. Its 38 research scientists include CAS academicians, chief scientists of 973 National Basic Research Projects (supported by MSTC), recipients of the National Distinguished Young Scientist Award granted by the National Science Foundation of China (NSFC), a Thousand Talent Category B scholar, CAS Hundred Talent professors and two NSFC Exceptional Innovation Research Groups. Many of the scientists play active roles in professional organizations, both in China and abroad.



Contact

State Key Laboratory of Palaeobiology and Stratigraphy
Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences

E-mail: lps@nigpas.ac.cn
Tel: 86 25 83282140
Fax: 86 25 83357026