

Graduate Education In National Center for Nanoscience and Technology, China



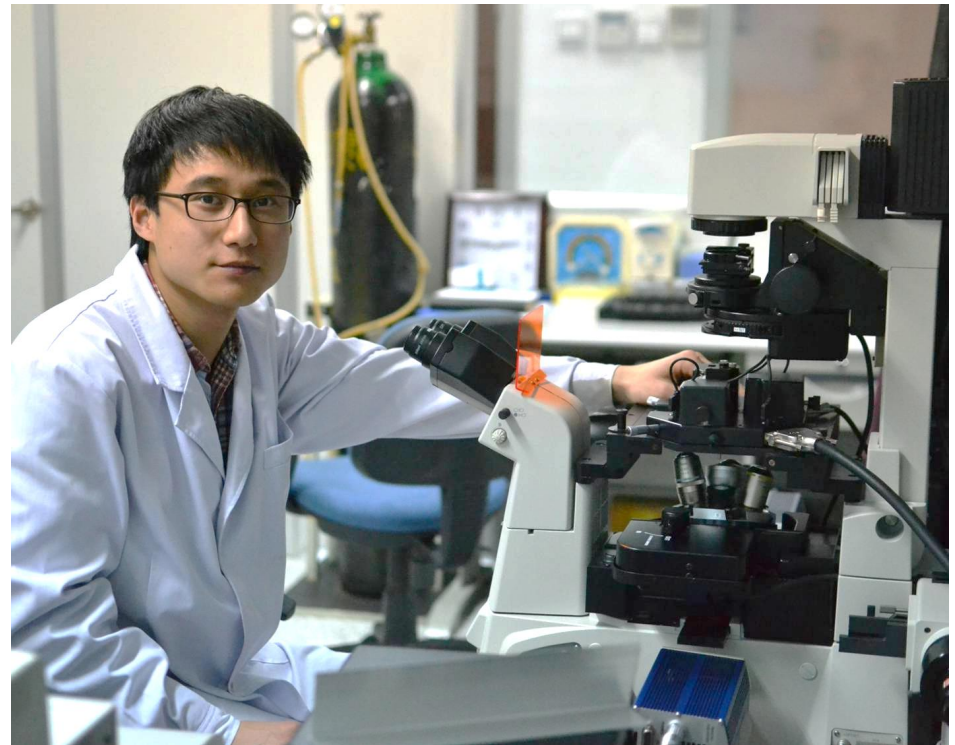
History of NCNST

- The National Center for Nanoscience and Technology (NCNST) is co-founded by Chinese Academy of Sciences (CAS) and Ministry of Education .
- NCNST is a subsidiary non-profit organization of CAS which has full financial allocations with a status of independent non-profit legal entity.
- The center was officially founded on December 31, 2003, with CAS, Peking University and Tsinghua University as its initiators and co-founders.



About NCNST

- A young and vigorous research team, which includes many outstanding scientists who have attained international recognition for their scientific contributions
- World-class infrastructures support and research facilities
- Cutting-edge research at the forefront of nanoscience and technology
- Dynamic science education and high-achieving students





**Dr. Yuliang Zhao,
Director of NCNST**

Address from the director

“Nanotechnology underpins and drives the development of information technology, new materials, medical technologies, green chemical technologies, and technologies related to new energy sources. It boosts the development of fields that could revolutionize human societies, like the emerging quantum technology and artificial intelligence, as well as smart medicine and smart cities.”

“It is my hope that with a shared vision and concerted efforts, all of our students could face challenges and embrace the future together. Let’s contribute our intellect and strength, to apply our nanoscience and technology knowledge wisely and creatively, and for the betterment of humankind.”



Students in NCNST

- The graduate program in NCNST, aims to educate students with the necessary interdisciplinary knowledge to contribute to the long-term nanoscale research and development, which will lead to potential breakthroughs in areas such as materials and manufacturing, medicine and healthcare, energy, chemicals, and biotechnology.
- NCNST encourages and supports students' pursuits for academic excellence and competencies development in their graduate education. We provide services and programs to individual students in all aspects of their student life.



Programs

- **PhD programs** require a combination of coursework and independent research, with major emphasis placed on research. Normal Duration of Study: 3 years if a relevant master's degree is earned prior to entering the PhD program; 5 years with an undergraduate degree.
- **Master programs** with 3 years require a combination of coursework and independent research, which research thesis is necessary.



PhD programs

- Physics
- Chemistry
- Materials
- Nanoscience and Technology

Master programs

- Physics
- Chemistry
- Materials
- Biology
- Nanoscience and Technology

Courses

Introduction to Nanoscience	Characterization and Analysis of Nanotechnology
Functional Nanomaterials	Nanocomposites Manufacturing and Their Applications
Nanobiomaterials	Fundamentals of Physics for Nano-structural Semiconductors
Theory and Computation at Nanoscale	Piezotronics in Nanodevices of 3rd Semiconductors
The Introduction of Nanochemistry	Nanogenerators and self-powered systems
Nano Optoelectronics/photronics	Micro-nano Bioelectronics and Medical Sensor
Nanodevices and Micro-nanofabrication	Nano Semiconductor Sensing Technology
Cancer Nanotechnology	Physical Chemistry at nano-bio interfaces
General Principles of Nanobiology	Frontier of Nanomedicine and Drug Delivery
Cell research on microfluidic chips	Nano-biological Detection and Bioimaging

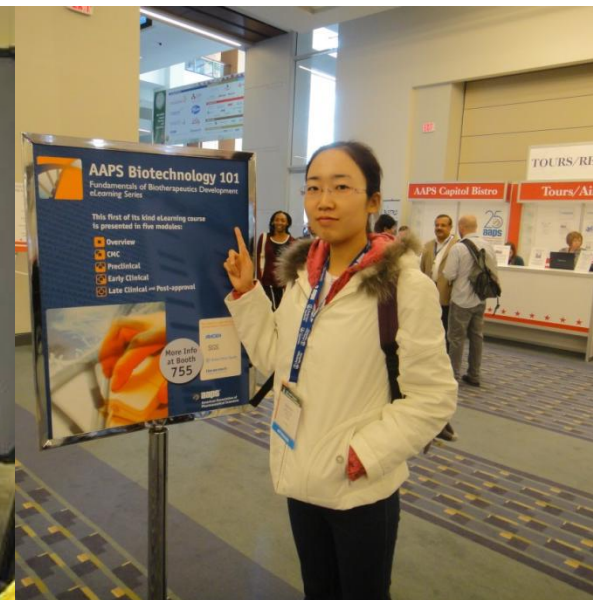
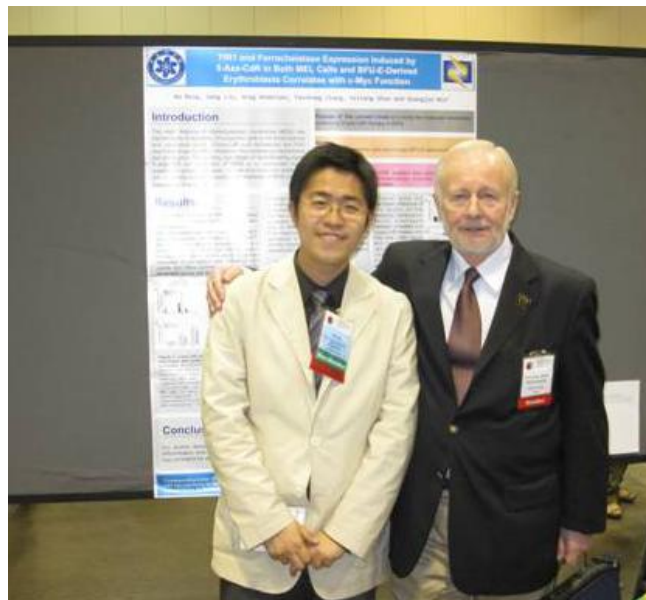


Technical training

- 150 sophisticated instruments & 3000 instruments from the labs: Nanofabrication Laboratory, Nano-Measurement Lab, Nanofabrication Lab, Nano-Biology Lab, Nanosystem Lab.
- Each student is required to master at least 3 advance instruments, and the graduates were popular for various technical positions in research institutes or companies.

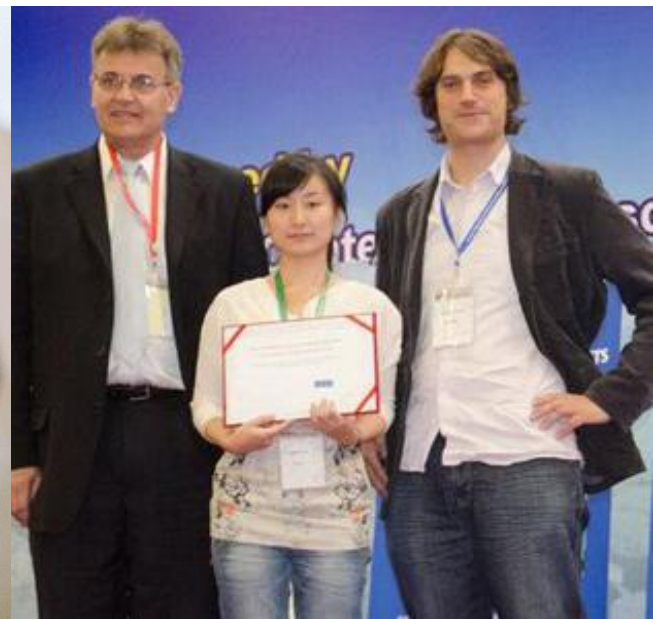
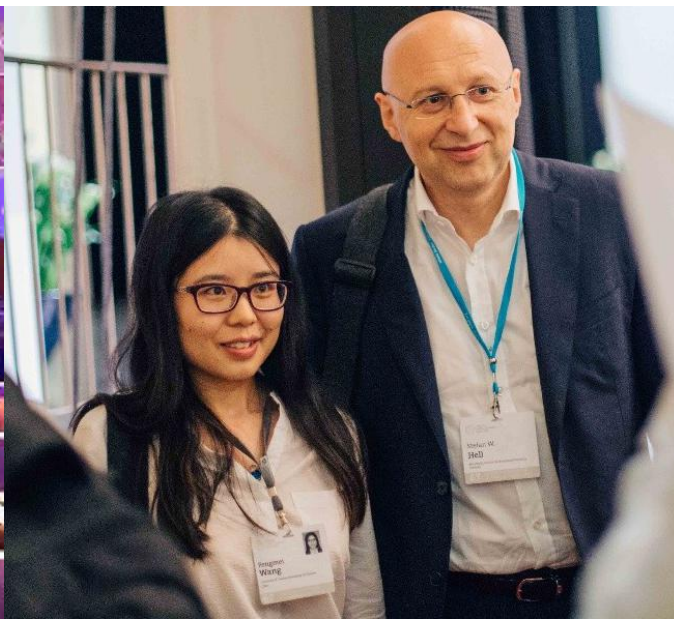
Academic Conferences

- Students have many opportunities to report their academic works and exchange scientific thoughts with the scholars and researchers in the international conferences.



Academic Achievements

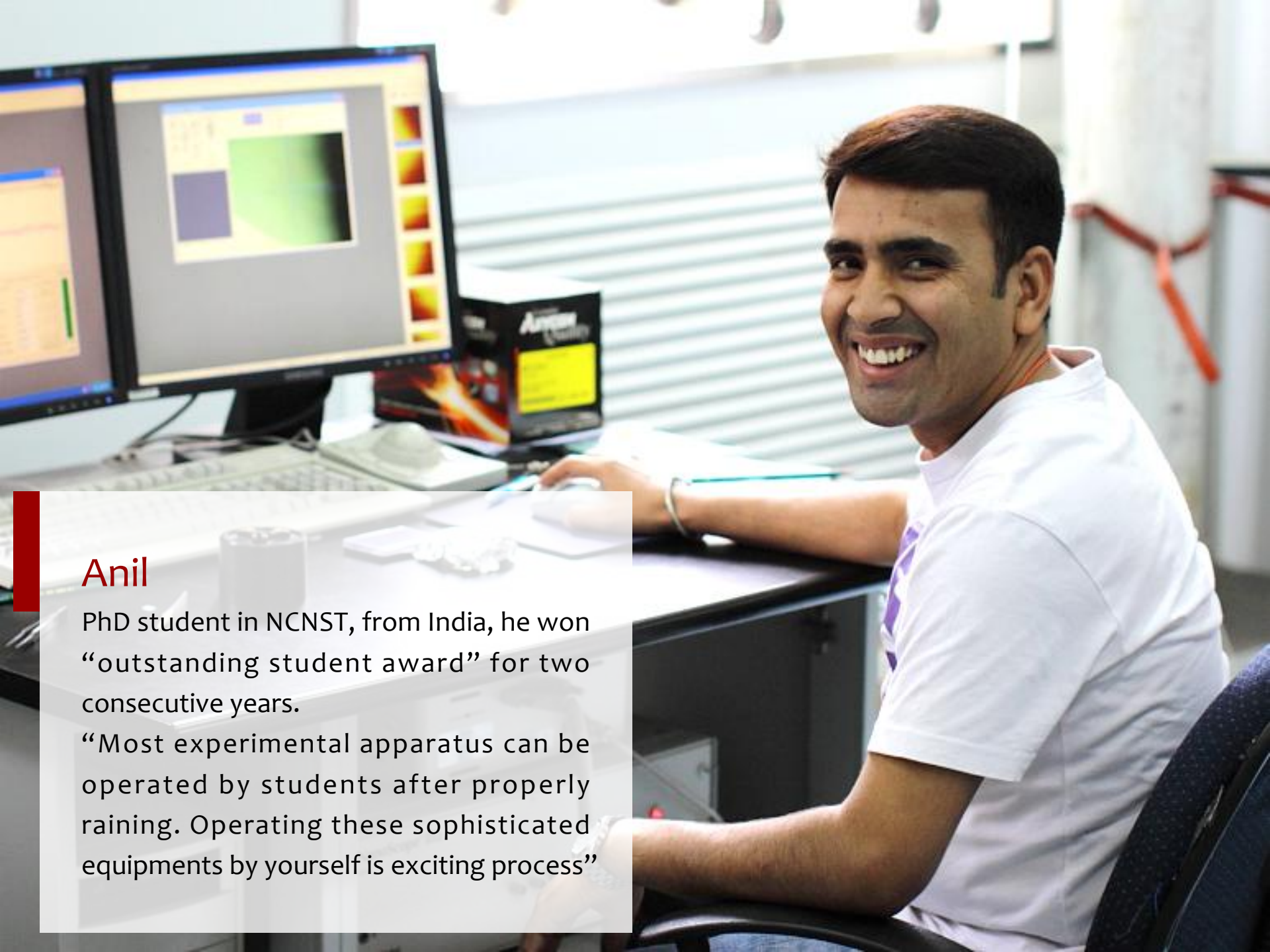
- With professional courses learning, technical training, they are encouraged to perform their original and creative research.
- Each Ph.D. student has published at least 3 academic papers in excellent scientific journals during the past 5 years.
- Our students received recognition for their research/scholarship achievements, including : CAS Special Award of Excellent Ph.D., CAS Outstanding Doctoral Thesis , BHPB Scholarship, Lu Jiaxi Award of Outstanding Ph.D., and etc.



International Students

- 2008-2019: more than 100 international students were enrolled, from 15 countries.
- Chinese language and culture courses will be provided.





Anil

PhD student in NCNST, from India, he won “outstanding student award” for two consecutive years.

“Most experimental apparatus can be operated by students after properly raining. Operating these sophisticated equipments by yourself is exciting process”



Reynier

PhD student in NCNST, from Guba, he won “outstanding student award” for three consecutive years.

“I arrived in Beijing with almost no idea of what “nano” means and with zero lab experience.

With the valuable help of professors and students, and with time and patience, I am becoming familiar with new terminology and laboratory equipment. In the Laboratory for Nanocharacterization, through use of Scanning Probe Microscopy, I have been involved in a project to study the wetting processes at nanometer scale under the influence of a high electric field, as well as physical and chemical properties of materials surfaces at microscopic scale.”

Career development of Alumni

- NCNST has trained nearly 500 graduate students.
- They now play an important role in research institutes and various industries in China and overseas.



Outstanding Alumni (Universities)

- According to an approximate figure, at least 60 alumni have been promoted as Professors or Associate professors. Presently, their researches have made an influential impact in the field of nanoscience and technology. It is through these students that NCNST has its influence on the nanoscience and technology in the world.



**NKU, Professor
Dr. Dingbin Liu**



**XMU, Professor
Dr. Xuhou**



**BUAA, Professor
Dr. Mingjie Liu**



**NTU, Professor
Dr. Zheng Liu**

Outstanding Alumni (Companies)

- Being efficiently educated in developing their self-discipline, analytical skills, problem solving abilities and leadership skills, our graduates have shown great performance in the diversified workplaces: R&D Companies, scientific journals, financial companies, government departments, and many more.



Baidu, Production Manager



Senior Engineer of DUPONT



P&G, Senior Engineer



Editor, the Journal of RSC

Culture in NCNST

■ NCNST advocates honesty, integrity, open-minded thinking and gratitude, and encourages individuality, trust, innovation and hardworking. We have built a happy, democratic and harmonious working and living environment for everyone.



Admissions

- Scholarship: 3000rmb-8000rmb/month, and free of tuition.
- Applicants are expected to hold a bachelor's degree or a master's degree in chemistry, physics, materials, biology or related field with satisfactory performance.
- Admission requirements: visiting the website of <http://english.edu.nanoctr.cas.cn/>; <http://english.ucas.ac.cn>



NCNST Shaping the future

