Tradition and Internationalization: Peking University’s Cross-century Development

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Outline

- General Information
- Humanities & Social Sciences
- Natural & Engineering Sciences
- International Exchange
- Research on Environment and Energy
General Information– History

• Founded in 1898 - “Imperial University of Peking”

• From 1912 – “Peking University”

• Disciplinary Relocation in 1952, comprehensive institution including the humanities, social sciences and natural sciences.

• In 2000, Beijing Medical University - Health Science Center

• Spirit of Peking University

  The university’s traditional values: patriotism, progress, democracy, and science, educational style: diligence, exactitude, truthfulness, and innovation.

  Former President Prof. Cai Yuanpei, the famous educator, advocated the principles of academic freedom and openness to different ideas, which create an unique academic atmosphere.
General Information– Fast facts

📍 Enrollment: 30,247, roughly half of undergraduates, half graduate students
📍 Faculties: 5
  📍 Faculty of Humanities,
  📍 Faculty of Social Sciences,
  📍 Faculty of Natural Sciences,
  📍 Faculty of Information and Engineering,
  📍 Health Science Center.
📍 Research Institutes & Centers: 224
📍 State Key Laboratories: 12
📍 Undergraduate/Master’s/Ph.D. Programs: 101/244/201
📍 National Key Academic Disciplines: 81
📍 Post-doctoral Research Stations: 35
📍 Professors & Associate Professors: 5,027
Schools: 13
- School of Foreign Languages
- School of Archaeology and Museology
- School of International Studies
- Law School
- Guanghua School of Management
- School of Economics
- School of Government
- Graduate School of Education
- School of Journalism and Communication
- College of Marxism
- School of Continuous Education
- School of Arts
- International College for Chinese Language Studies

Departments: 5
- Department of Chinese Language & Literature
- Department of History
- Department of Philosophy
- Department of Information Management
- Department of Sociology
Natural & Engineering Sciences

Schools/Colleges/Dept.: 10

❖ School of Mathematical Sciences
❖ School of Physics
❖ College of Chemistry & Molecular Engineering
❖ College of Life Sciences
❖ School of Earth and Space Sciences
❖ College of Environmental Sciences and Engineering
❖ College of Urban and Environment
❖ School of Electronics Engineering & Computer Science
❖ School of Engineering
❖ Department of Psychology
❖ Health Science Center: School of Public Health

School of Engineering (June, 2005)

Specialties: 5

❖ Bio-medical Engineering
❖ Advanced Materials & Nano-technology
❖ Energy & Resources Engineering
❖ Mechanics & Aerospace Engineering
❖ Industrial Engineering & Management

Cross-disciplinary Research

❖ Center for Nano-science and Technology
❖ Center for Nuclear Magnetic Resonance
❖ Center for Stem Cell Research
❖ Institute for Molecular Medicine Research
❖ Bio-X Center (Environ. and Health)
❖ The Academy for Advanced Interdisciplinary Studies
Research Funding

RMB650M (about US$80M) in 2005

Natural & Engineering Sciences:
RMB420M (about US$52M)

Medical Sciences:
RMB150M (about US$18M)

MOST: Ministry of Science and Technology
NSFC: Natural Science Foundation of China
MOE: Ministry of Education

Development Priorities

- Information Technology
- Nano-science and Technology
- Bio-medical Science
- Environmental Resource Studies
- Advanced Material
Various Forms of Collaboration

- Regular Faculty/Student Exchange
- Joint Ph.D. Programs
- Double Master Degree Programs
- Branch Campus Programs
- Joint Undergraduate Programs
- Summer School Programs
- Multi-discipline Centers

Fast Facts

- Partner Universities: About 240 from 50 Countries/Regions
- International Students: Over 5,000 from 96 Countries/Regions
- Foreign Experts: Around 600
- Over 30 State Heads since 1998
Two research platforms (2nd phase of “985” program)

- Atmospheric Environment and Global Change (PI: Yuanhang Zhang)
- Environment and Health (PI: Tong Zhu)
Urban & Regional pollution & climate effects

Ozone, aerosol and precursors

- Long Term Monitoring
- Intensive Field Campaigns
- Dynamic emission inventory and validation
- Model evaluation
- Linkages (between air pollution and climate changes, between urban-regional-global scale)
Platform of Atmospheric Environment and Global Change

Sci. Goal

O$_3$ formation mechanism and climate effects

N bio-geochemical cycle

Radiation forcing of aerosol

Monitoring & prediction of mesometeorology

Mechanism of flood and drought

Regional Pollution

Global Change

Goal: National platform for information and decision making of regional pollution and climate disasters
I. Observatory

- Bashang (in preparation)
- PKU campus (in operation)

II. On-line techniques

**Gas:** (NO\textsubscript{x}, O\textsubscript{3}, SO\textsubscript{2}, CO, VOC, H\textsubscript{2}SO\textsubscript{4}, HCl, HNO\textsubscript{2}, HNO\textsubscript{3}, NH\textsubscript{3}, OH)
- TECO, Wet Denuder
- CIMS, GC-MS (on-line)

**Aerosol**

- **Physical** (size, mass)
  - TDMPS, TSI, TEOM

- **Chemical** (EC/OC, Water soluble organic and inorganic)
  - SJAC, MOUDI (nano- Anderson Sampler, IC, GC/MS, HPLC

- **Optical** (scatt& Absorp.)
  - Nephelometer, Athenometer, Laser-Acoustic, Lidar

**Meteorology, satellite**

III. International partnership

**North America**
- NOAA (Climate Monitoring and Diagnostic Lab CMDL and Aeronomy Lab Georgia Tech (GIT)
- University of California, San Diego

**Europe**
- Institute for Tropospheric Research at Leipzig (IFT)
- Forschungszentrum Juelich, ICG II Troposphere (KFA)
- Max Planck institute at Mainz (MPI)
- European Commission Joint Research Center at Ispra, Italy (JRC)

**Asia**
- University of Tokyo
- Research Center for Environmental Changes, Taiwan
- Hong Kong University of Science and Technology (HKUST)
- Hong Kong Polytech University (HKPU)
Major concerns of Environment and Health at PKU

Source

Exposure

Health effects of environmental pollutants

Dose-Effect relationship

Environmental and genetic causes for diseases

Social aspects: cost, poverty, Health and environment policy
Research platform of Environment and Health at PKU

State Key Joint Lab of Environmental Simulation and Pollution Control (PKU)

College of Chemistry and Molecular Engineering

Accelerator MS

Biomed-X Center

Health Science Center:
- School of Public Health
- School of Basic Medical Sciences
- School of Oncology
- 6 hospitals

College of Environ. Sci. & Enginerring:
- Environmental Economics
- Environ. Policy and Management

Institute of Population
Thank You!