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*Internationalization
of Higher Education
Innovation in China:*

*The Case of Organized
Research Units of Peking
University*

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Outline

- I. Background**
- II. Research Objectives and Questions**
- III. Methodology of the Study**
- IV. Initial Findings from the Pilot Study**



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Background

1. In the context of knowledge-based economy, innovation of higher education has become a core of the national agenda driving political and economic transformations in China.
2. A number of international stakeholders have been making efforts to tap the innovation potential of Chinese research universities to build stronger transformative thrusts that consolidate governmental, industrial and academic goals.



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Research Objectives

The study investigates the international, intercultural and global dimensions integrated, through the interactions and cooperation between university-based organized research units (ORU) and their international stakeholders. It examines how these relations reflect on and contribute to China's National Innovation System (NIS) and how do these dimensions affect the innovation capacity of Chinese research universities and the entire NIS.



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Research Questions

1. How do different international stakeholders conceptualize the roles of university R&D in their internationalization and global impact?
2. What roles do research university's ORUs play in the internationalization of China's NIS? How does the ORU internationalization contribute to the international/intercultural/global dimensions of Chinese R&D agenda, in universities, governments and industries?
3. What challenges do ORUs experience in the internationalization strategies and implementation?
4. What benefits (if any) do university professors and students have from the process of ORU internationalization and extension of global linkages to governmental and industrial R&D centers?

University-based Organized Research Units (ORUs)

1. Mission: an explicit research mission, in particular, interdisciplinary investigations (Geiger, 1990; Boardman and Gray, 2010);
2. Administration: semi-autonomous research entities within universities. They should operate independently of academic departments (Gray et al., 2001);
3. Personnel: they involve multidisciplinary teams of researchers from more than one departmental organizations, but their staff are rooted in established departments (Geiger, 1990; Gray et al., 2001; Boardman and Bozeman, 2007);
4. Financial resource: their research projects are sponsored by external stakeholders for nonacademic reasons (Geiger, 1990; Gray et al., 2001; Zajkowski, 2003);
5. Mechanism: they must exhibit organizational formality, and operate in cooperative paradigms, which promote extra/super-organizational and interdisciplinary/cross-sector collaboration and knowledge/technology transfer (Geiger, 1990; Boardman and Gray, 2010; Boardman et al., 2013).



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Methodology

Why PKU?





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Methodology

Why PKU?

1. One of the most comprehensive research universities in China. In Shanghai Jiaotong Academic Ranking of World Universities 2012, PKU is ranked among top **151-200**, which is the Top 1 among Chinese universities, its rankings has been going up from 2003 to 2012 ; Other than that, in 2012, the Performance in Academic Ranking of World Universities by Broad Subject Fields, in Natural Sciences and Mathematics (SCI), PKU is ranked **76-100**; in Engineering/Technology and Computer Science (ENG), PKU is ranked **101-150**; in Social Sciences (SOC), PKU is ranked **101-150**;
2. It can be regarded as the frontiers of innovation initiatives of Chinese higher education, in particular in research;
3. It has been taking the lead of many forms of university-industry collaboration;
4. It is also at the frontier of internationalization of Chinese higher education;
5. PKU is the Alma Mater of the researcher.



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Methodology (continued)

1. Qualitative Study: Semi-structured interviews
2. Participants: 17 interviews
 - 1) Government official (3)**
 - Chinese Academy of Science and Technology for Development , Ministry of Science and Technology, China (2)
 - National Research Center for Educational Development, Ministry of Education , China (1)
 - 2) University administrative staff (3):**
 - Office of Scientific Research (Office of Overseas Project) (2)
 - Office of Planning and Policy Research (1)
 - 3) ORU administrative staff (3)**
 - 4) Researchers (8, 3 of them don't have substantial relationship with research centers)**



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Initial Findings I

- [The official website of PKU research centers](#) lists 179 research centers; Only 18 of them can be regarded as research entities.
- Research entity: “Fixed office space; regular administrative staff; fiscal and personnel power”.
- The research centers, which are expected to be developed as substantial platforms for academic research, want to become research entities.

Question for further thinking:

Why do they want to become research entities?

Are research entities more advantageous for international cooperation than virtual institutions? If yes, from what aspects?



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Initial Findings II

Biodynamic Optical Imaging Center (BIOPIC): an interdisciplinary research center established by Peking University in 2010.

It was born to be a hybrid baby. It was established specifically for international partnership.

Affiliation: PKU School of Life Science, PKU third-category research center.

Funding Source: Government funding and research grants of the researchers (985 project, 973 project, and 863 project);

Director: Professor Xie, Xiaoliang; leading figure in this field. Part-time: 3 months in PKU.

Staff:

10 PI (6 of them are full time and the others are co-employed with different academic departments: physics, life science, medical science and computer science);

All of them have overseas academic experience. But they are all Chinese nationals or ethnic Chinese.

Worldwide recruitment: *have international level research products; publications which are influential on home and abroad academe; being fluent in both Chinese and English writing and speaking skills; being able to deliver professional presentation in international conferences and composing project proposal independently.*



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Initial Findings III

[The Kavli Institute for Astronomy and Astrophysics at Peking University \(KIAA-PKU\)](#): established by the sponsorship from Kavli Foundation (US) in 2005;

Kavli institutes are established in the most prestigious universities around the world. The Foundation donates 7500,000 USD for each institute. For KIAA-PKU, it only donates 3000,000;

KIAA works closely with the Department of Astronomy, via coordination of research activities, sharing of research facilities and resources, and training and supervising of research students. It is the PKU second category research institution;

Staff: 7 regular researchers (4 are non-Chinese, 3 are Chinese); 6 post-doctoral fellows (5 are non-Chinese); 2 international PhD students;

The first director (2007-2011): Professor Douglas Nelson Lin, worldwide recruitment; Professor of UC Santa Cruz; US-born Chinese; part-time for 5 years; stayed for 3-4 months per year;



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Initial Findings IV

International Cooperation is mostly limited to individual level rather than organizational level in the name of KIAA-PKU.

The international staff don't know Chinese. They are physically working in PKU, but their networking, partnership and projects have not changed much. They are hesitant to cooperate substantially with their Chinese colleagues in PKU. The most salient change is their affiliation when they publish papers.

China is not lack of papers. The problem is how much these international researchers can contribute to China's National Innovation System.

Chinese government has adequate funding resource to support scientific research, which attracts more international researchers to work in China.



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Initial Findings IV

How to motivate the international researchers working in China actually work for China, for enhancing the innovation capacity of PKU and China's National Innovation system?

“International Cooperation has to be carried out on the basis of our own strength, otherwise, the partnership cannot be equal.”

Even the most prestigious Chinese research university, like PKU, does not have appropriate English environment (the official documents, etc. are in Chinese), which greatly affect the integration of the international staff.

Sense of ownership.

Sense of contribution.

Degree of integration.

Language training (?).

Recruitment of ethnic Chinese and returned architects.



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***Thank you
very much!***