

## "RESEARCH AND DEVELOPMENT" - A NEW AND EFFECTIVE INSTRUMENT FOR COMPETITION OF SCIENCE AND TECHNOLOGY UNIVERSITIES

In order to establish teaching and research distinctiveness, industry-academia collaboration has been utilized as an important quality index and policy for Ministry of Education (M.O.E.) to evaluate and accredit all the science and technology universities. It has therefore come into being a passionate trend for universities to aggressively look for collaborative linkage with industry. In the past, each science and technology university paid attention only to

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promote their faculty's personal academic researches, which can just benefit individual and university itself. However, fighting along nowadays is not matching the trend of the times anymore. The better strategy is to work through industry-academia collaboration to create "double-win and co-prosperity between industry and academia."

Motivating both industry-academia collaborations and professional practices may not only strengthen industry-academia linkage and raise research funding, but also allow industry to acquire distinctive know-how and highly qualified manpower. So, it becomes a new and effective instrument for competition of science and technology uni-

versities.

### Implement Product Oriented Research Strategy and Nurture Industry-academia Capacity

NPUST has aggressively involved in the implementation of "Product (Process) Oriented Research (P.O.R.)" strategy on campus, devoted much attention to industry's and market's needs, and play intermediary role between University's faculty and industry. Through the platforms of "patent portfolio," "patent protection," "industry-academia collaboration," and "innovation and incubation," the NPUST has delivered quintessential academic research to industry under the conditions of safety, dignity, legitimacy, convenience, and reciprocity to manifest the benefits of intellectual property and assist the industry in their business continuity.

Besides, in order to integrate NPUST's research capacity, the University has aggressively put forward Administrative Affairs Fund to initiate 9 distinguishing research centers, including the Center for Active Natural Products Development, Animal Vaccine and Adjuvant Research Center, Green Moto Vehicle Research Center, Electronic Commerce Research Center, Emerging Compounds Research Center, etc. to expand the University's specialties and unique features on tropical agricultural technologies. For example, the Center for Active Natural Products Development has owned more than 20 patents. Their students' practicing products have made as high as NT\$20,000,000 of sales per year. Their achievements are remarkable. Secondly, the Green Moto Vehicle Research Center has exceptionally obtained a NT\$1,700,000 grant of Local Business Value Adding and Technology Development Program for Academia from Ministry of Economic Affairs. The funding may help the Center for developing technologies of lightening vehicle body weight and also working in concert with environment protection measure of energy saving and carbon dioxide reduction.



### Outstanding Research and Development Achievements and Exceptional Industry-academia Evaluation and Accreditation

In order to establish the complete organization frame of industry-academia collaboration, Office of Research and Development of NPUST has set up Center for Regional Industry Academia Collaboration M.O.E., Innovation and Incubation Center, Art and Culture Industry Innovation and Incubation Center, Technology Service Centers, Intellectual Property and Technology Transfer Center, etc. to accelerate services of technology collaboration and those provided by other research and development related Divisions. Through utilizing jointed business operation model, NPUST has tried to raise the efficacy of industry-academia collaboration and made effort to create a pro-industry-academia campus environment with brilliant achievements:

1. NPUST faculty have thrown themselves into basic or practical research projects and received splendid achievements between 2005 and 2008. The number of research projects and the research budgets have been about 700 cases and about NT\$600,000,000, respectively. NPUST is counted as one of the very best universities of science and technology in Taiwan.
2. NPUST has an outstanding performance in the evaluation and accreditation of science and technology universities. Her productive achievements and exploitable benefits of intellectual property were ranked No. 1 and No. 2 nationwide in 2006 and 2007, respectively. The remarkable

achievements of NPUST industry-academia collaborations of 2007 won the championship in Southern Taiwan. Budget obtaining and performance of industry-academia collaborations also stayed at the top in Southern Taiwan between 2006 and 2007.

3. NPUST continuously won the Awards of Excellence for the Industry-academia Collaboration Performances of Science and Technology Universities, M.O.E between 2006

and 2008.

4. NPUST has the honor to get the grant of "Commend and Award Science and Technology Universities for Developing Regional Industry-academia Collaborations" from M.O.E. in 2009.

5. Center for Regional Industry-academia Collaborations of NPUST has performed distinguished achievements and has the honor to get an A rank of evaluation and accreditation by M.O.E. for 4 consecutive years between 2005 and 2008.

6. Innovation and Incubation Center of NPUST has successfully incubated 10 small and medium enterprises and help them to enter and base themselves to Pingtung Agricultural Biotechnology Park and Kaohsiung Software Technology Park.

7. College of Engineering of NPUST has brilliantly got a full past of the "Accreditation of International Technology and Engineering Education Program" by the Institute of Engineering Education Taiwan.

8. The Center for Agricultural and Aquacultural Products Inspection and Certification in NPUST has been approved as a qualified inspection and certification organization by Taiwan Accreditation Foundation.

9. The Civil Engineering Technology Service Center in NPUST has been approved as a qualified inspection organization by Taiwan Accreditation Foundation and certified internationally by the Geosynthetic Accreditation Institute.

Besides, NPUST has recently paid attention particularly to promote the work of

patent protection for the achievements of industry-academia collaborations and technology transfer. The patent application number grows swiftly. Until 2008, NPUST's patent application number has been ranked the 41st among the institutes nationwide, and been ranked the 3rd among the science and technology universities. The light sodium soy sauce technology owned by NPUST has been successfully transferred to industry for commercialization. The license fee was NT\$10,000,000, which set a highest record of technology transfer for academia.

Lift Up NPUST's Notability Interna-

tionally and Strive Toward Being among the Top 100 Universities of Asia

With a long and glorious history just about 85 years, NPUST is going to become a centennial university. The entire fellowship of NPUST shall keep abreast of global academic rhythm, culture manpower with both qualified intelligences and virtues, and make effort to elevate NPUST's notability internationally, so that NPUST can move into the top 100 Asian universities in the near future. Everyone is expected to have steady footsteps and broadminded vision to "originate ourselves in Taiwan and connect to the entire globe" as well as strive toward

the aspiration of being among the "top100 universities of Asia."

Hopefully through the publication of this quarterly, all readers from various professions can understand more about the superiorities of having industry-academia collaborations with NPUST. NPUST can provide innovation implementation and research and development capacities to industry to jointly create a collaboration model with mutual benefit and double-win between industry and academia."