

## The American Research University A Model for Developing Countries?

**M**ost of the 'world class' colleges and universities located in the U.S., devote a significant portion of their organizational energy participating in both public and commercially funded research activities. The history of the research university can be traced back to the Middle-Ages in Europe, with Germany serving as the foundation upon which American research universities have been built. Today, a significant amount of academic research in Germany and other parts of Europe has migrated to special institutes, whereas academic research in the U.S. has remained primarily a university controlled endeavor. Universities in developing countries that are seeking 'world class' status, might be best served following the organizational model of the American research university.

The specific areas of research that are broadly identified at American universities frequently occur in the disciplines such as engineering, chemistry, agriculture, computer science, and biotechnology. But there is also a considerable amount of social science research in the fields of economics, political science, sociology, anthropology and psychology. A limited amount of research is also being conducted in various areas of the arts.

Following is a sample listing of categorically selected re-

### **DR. ROD JENSEN**

California State University.  
Long Beach, USA

search currently (9/15/09) being attempted at several American universities.

University of Rochester researchers have discovered that the brain has the capacity to process images of animate or inanimate objects, even in people who have been blind since birth.

The Cornell University Lab of Ornithology is studying the migratory routes and flying patterns of birds and bats in hopes of developing a solution to flight path problems posed by wind turbines.

Northwestern University is experimenting with the use of nanodiamonds to deliver genes to living cells as a therapy to treat numerous diseases such as cancer, heart disease and diabetes.

University of North Carolina, Chapel Hill has completed a new study that indicates how small moments of positive emotion can help people become optimistic and more capable of handling challenges.

Case Western University researchers have concluded that infants who have the capacity to process new information at an early age will reach higher levels of academic achievement as young adults.

A Harvard University group

of archeologists and paleobiologists searching a cave in The Republic of Georgia, have discovered 34,000 year old flax fibers that could be the oldest fibers known to have been used by humans.

University of California at Berkeley researchers have developed the world's smallest semiconductor laser which will be able to light a space as small as a single protein molecule.

University of Southern California researchers have spent several years looking at the microbial environments throughout the earth. This research has been instrumental in developing a new academic discipline called geobiology.

The American research university is generally associated with graduate education which focuses upon specialized training and knowledge. Undergraduate education however, seeks to provide completing students with a basic educational foundation. Robert M. Berdahl, President of Association of American Universities wrote an article called "Research Universities: Their Value to Society Extends Well Beyond Research" (April, 2009), where he detailed the connection between research and graduate education.

A great strength of the American research university is the joining of research with graduate education. Graduate students are



educated at laboratory benches next to their mentors, funded by their research grants and co-authoring papers with them. The benefit goes both ways: graduate education is enriched by the direct conduct of research, and the research is invigorated by the energy and creativity of these students. Other nations increasingly recognize that this is the best system for educating the next generation of scientists and scholars.

Research is a rather general term used to describe the numerous activities that occupy the inquiry-based interests of university personnel. The fields of research cover most areas of intellectual inquiry from social science to natural science and from engineering to biochemistry. Research can be as esoteric and unique as analyzing the songs of male bats (University of Texas at Austin and Texas A&M University) or as specific and timely as developing an inhaled application for a new antiviral medication designed to stop the reintroduction of small pox (Tulane University). Regardless of the breadth of research being conducted at a university, it is widely acknowledged that these activities advance the core knowledge of many disciplines. The negative implications associated with the continued growth of the American research university are related to campus operational concerns and potential conflict of interest with commercially sponsored research.

The educational role of research in the American university is widely accepted and acknowledged yet its connec-

tion with business and industry often creates conflict of interest charges. One such charge is that university research activities are compromised due to the influence of commercial funding. An example to illustrate this point can be found in the corporate relationships enjoyed by university administrators and faculty. South Dakota State University (SDSU) is well known in the upper Midwest of the U.S. for its agricultural research. The president of SDSU also happens to be on the Board of Directors for Monsanto Corporation, which is one of the world's largest agri-business conglomerates. As one of 11 members on Monsanto's board, the president of SDSU receives a compensation package which is almost double the salary he makes as a university president. Critics of this public-private relationship question where the allegiance of the president resides if there were to be an obvious conflict between institutions—at SDSU or at Monsanto? The president contends that because of his seat on the board of Monsanto he is able to influence the awarding of several million dollar research grants for SDSU.

Corporations and commercial interests still conduct a considerable amount of private industry-led research and development in the U.S. And even though their contribution to university research is significant, it is a fraction of the total university research budget. (The area in which the research universities dominate is in basic research where they account for 54% of all research.) Using numbers

for 2006, 63% of total research funding (US\$30 billion) came from the federal government, 19% came from university funding sources (US\$8.9 billion), 7% came from non-profit organizations (US\$3.4 billion), 6.3% was contributed by state and local governments (US\$3 billion), and 5% came from industry sponsorships (US\$2.4 billion). (Information provided by the Association of American Universities).

University research also serves as a vehicle for bringing additional revenue into the campus through the form of royalties or licensing fees. One notable example of revenue from licensing fees occurred at the University of Minnesota. In 1960 the University of Minnesota through its apple breeding program developed the Honeycrisp apple. By 1974 the Honeycrisp was ready to be marketed to nurseries across the country. Thanks to a U.S. Plant Patent any dealer or nursery that wanted to sell a Honeycrisp apple tree needed to purchase a breeder/seller license from the University of Minnesota. In the 35 years since the simple but tasty Honeycrisp apple has been on the market, it has generated about US\$1million in licensing royalties.

In 1965 a University of Florida professor, in answer to a problem posed by a football coach, developed a water replacement product that was effective in rehydrating athletes. Two years later this product was sold marketing rights to a food distributor for production and selling to the general population. Several years later the original company was

taken over by a larger food conglomerate kept the University of Florida product and marketed it with greater efficiency. This simple product developed through university research called Gatorade, has generated a total of US\$61.5 million in licensing payments.

The bulk of research dollars comes from the federal budget which is periodically subject to the political interests of Congress and the President. Governments in developing countries may be challenged to provide significant funding for university research activities when basic undergraduate education is already fiscally underfunded. Developing countries must make balanced decisions based upon limited educational funds versus ambitious educational goals. Most developing countries have the vision of placing one of their national universities within the top 500 ranked universities in the world (or preferably in the top 100). But reviewing the Times of London's (2008) recent listing of the top 200 universities indicates that non-research universities are rarely ranked in the top echelon of world-class universities. If a developing country is to place a national university into the upper echelon of world class universities, that nominated university will need to be very active in research activities.

Becoming a world class university is an ambitious undertaking that usually requires tremendous institutional focus, fiscal and mental resources, and consistency of effort. An example of a fairly young university

quickly reaching world class status is The University of California, Irvine which was founded in 1965. In this short period of time UC Irvine has become a well known research university with a recognized expertise in Information and Computer Science, Chemistry, Engineering, Psychology—Cognitive Science, as well as many other notable academic disciplines. In the 2008 ranking of the top universities of the world the Jiao Tong ranking placed UC Irvine as the 46th best university in the world and the London Times ranking placed UC Irvine as the 132nd best university in the world.

Many U.S. research universities have reached the pinnacle of recognized quality in the ranking of world universities. In the Jiao Tong top 500 universities in the world (2008) 54 of the top 100 universities are U.S. research universities. In the London Times top 200 universities in the world (2008) 37 of the top universities are U.S. research universities. If the American university is to be used as a model for universities in developing countries seeking to be counted among the world's best, it is obvious that some level of research will be a requirement. ●

---

## Khủng hoảng tài chính toàn cầu...

(Tiếp theo trang 23)

Đối với VN, cuộc khủng hoảng tài chính toàn cầu cũng bắt đầu có những tác động tiêu cực đến các hoạt động của đời sống kinh tế - xã hội nhất là kim ngạch xuất khẩu sụt giảm, đầu tư trong và ngoài nước gặp khó khăn do nhu cầu tiêu thụ của thị trường trong và ngoài nước bị thu hẹp, sụt giảm. Trước tình hình đó, chính phủ VN đã phải điều chỉnh chính sách kinh tế vĩ mô từ chống lạm phát sang chống suy thoái kinh tế, điều này đòi hỏi sự cân trọng trong liều lượng thực hiện các công cụ kinh tế vĩ mô để nhằm một mặt kiềm hãm đà suy giảm tăng trưởng cũng như đảm bảo không làm gia tăng lạm phát trở lại. Thực chất đòi hỏi chính phủ VN phải điều hành chính sách kinh tế vĩ mô một cách thông minh và linh hoạt. ●

### TÀI LIỆU THAM KHẢO

1. Phạm Thế Anh (2008), "Chỉ tiêu của chính phủ và tăng trưởng kinh tế: Một khảo sát", *Nghiên cứu Kinh tế*, số 365, tháng 10/2008, tr. 17-27.
2. Nguyễn Trọng Tài (2008), "Tự do hóa tài khoản vốn: nhìn từ góc độ lý luận và kinh nghiệm các nước", *Nghiên cứu Kinh tế*, số 365, tháng 10/2008, tr. 3-16.
3. TS. Trương Quang Thông (2008), "Khai thông các công cụ tài chính cho thị trường bất động sản VN", *Phát triển Kinh tế*, số 214, tháng 10/2008, tr. 45-47.
4. Hồ Quốc Tuấn (2008), "Tập đoàn lớn thực hiện đầu tư tài chính: Gia tăng độ rủi ro và tính dễ vỡ của thị trường", *Phát triển Kinh tế*, số 217, tháng 11/2008, tr. 23-26.
5. Nguyen Mai, "Aftershocks from US earthquake", *Vietnam Investment Review*, Nov 24-30, 2008, p. 12-13.
6. *Thời báo Kinh tế Sài Gòn*, số 50-2008 (938). 4-12-2008.
7. *Báo Tuổi trẻ*, ngày 10/12/2008.
8. Các tin tức trên *Bloomberg*.