



CONTINENTAL

Universities Share Individual Strengths Through Core Partnerships

by WHITNEY WEEKS

At two universities halfway across the globe from each other, research and learning occurs around the exact same problems and issues. Topics such as the quality of education, the curing of cancer, and the understanding of human behaviors know no geographical boundaries. Hardly a coincidence, a synchronization of scholarly effort is the result of an important and strategic partnership. Vanderbilt University and the University of Melbourne boast more than 20 collaborations, including the Free Radical Chemistry Collaboration, a student exchange between the universities' schools of business, and programs involving both electrical and civil engineering faculty and students. Seven different Vanderbilt colleges and schools and dozens of faculty, staff, and students at both institutions are working together on a regular basis.

The core partner strategy, first implemented in 2006 by the Vanderbilt International Office, makes broad and deep relationships possible at a select handful of universities across the globe. Supported by the highest level of university administrators at Vanderbilt and at partner institutions, the core partnership with

the University of Melbourne has been particularly successful. This partnership has brought to fruition dozens of collaborations—from an MBA student exchange to an international water resource project—while at the same time raising the international profile of Vanderbilt throughout the South Pacific region.

According to Richard McCarty, Provost and Vice Chancellor for Academic Affairs, “I am delighted that Vanderbilt has developed a close partnership with the University of Melbourne, a leading international research university. Several research collaborations and exchanges have already developed and more will surely follow as we continue to build a long-term and mutually beneficial relationship. The chancellor and I look forward to continuing discussion with our Melbourne colleagues in identifying new and exciting ways for this partnership to grow.”

Like all of Vanderbilt's core partners, the University of Melbourne was approached because of the close alignment between the two universities in both the nature of its colleges and schools and its offered areas of study. In addition to strong undergraduate

programs in music, engineering, and education among others, the University of Melbourne boasts award-winning graduate and professional schools in management, law, science, and medicine.

“The University of Melbourne has been delighted by the progress towards establishing an enduring strategic alliance with Vanderbilt University,” says Professor Frank P. Larkins, outgoing Deputy Vice Chancellor of Global Relations at the University of Melbourne. “Our purpose has been to strengthen the international engagement with Vanderbilt for the mutual benefit of staff, students, and our respective external communities. Several areas embracing both the science and social science disciplines have been identified where there is a mutuality of interests,” Larkins explains. “Our goal is to build upon these strengths and to identify new areas for collaborative research projects, staff, and student exchanges, and the sharing of ideas for curricula and technological developments.”

In addition to increasing collaborative research opportunities, a goal with all Vanderbilt core partnerships is the forging of long-standing connections at every level of university life. This desire is true for Vanderbilt, as well as for the University of Melbourne.

“An important outcome to which we aspire is to graduate more globally aware students with a sense of commitment to improving the understanding between culturally different nations,” says Larkins. “Through joint research and teaching activities, there is the

opportunity to enrich the quality of the educational experience for all concerned.”

In all, twenty-three collaborative projects between Vanderbilt and the University of Melbourne are in various stages of development and implementation. Some projects involve an exchange of information. Others involve an exchange of individuals. Still other projects bring faculty and students together to work on a specific research project of mutual interest. A few proposed projects benefit both institutions and also focus on a third institutional collaborator.

Currently, Vanderbilt has entered into core partnerships with five foreign universities, including the University of Melbourne, Fudan University in China, University of São Paulo in Brazil, University of Cape Town in South Africa, and the Pontifical Catholic University of Chile in Santiago. Collaborations of every type are taking place, involving faculty and students from every college and school at Vanderbilt. Regardless of the number or type of projects, the core partner strategy remains the same—to allow meaningful, significant partnerships to grow between Vanderbilt’s faculty, staff, students, and their peers at similar international institutions. With every successful collaboration, Vanderbilt’s international profile continues to rise, making potential students, faculty, and staff from around the world aware of the vibrant intellectual and research community that proudly calls Nashville, Tennessee, home.

COLLABORATION



City and University of Melbourne



Graduate Centre, University of Melbourne



Alan Gilbert Building, University of Melbourne

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Joint Colorectal Cancer Program

More than ever before, advances in cancer research and treatment are emerging from team-based approaches to science. Based on a long-term friendship and common research interests, Vanderbilt's Robert J. Coffey Jr., the John B. Wallace Professor of Medicine, Professor of Cell and Developmental Biology, and Ingram Professor of Cancer Research, and Antony Burgess, Professor of Surgery at the University of Melbourne and Director of the Melbourne Branch of Tumor Biology at the Ludwig Institute of Cancer Research, have spearheaded a partnership in colorectal cancer between the two universities. Colorectal cancer, a cancer of the colon or rectum, is a common form of the disease in both men and women. Both Coffey and Burgess share a deeply embedded commitment to understanding the molecular basis of this disease with a particular interest in signaling through the epidermal growth factor (EGF) receptor. Monoclonal antibody blockade of the EGF receptor was recently approved by the Food and Drug Administration as a promising new therapy in treating patients with advanced colorectal cancer.

Both groups also share an interest in identifying a gene expression signature from an individual's colon cancer that can accurately predict which patients are going to do well and which are going to do poorly. Accurately predicting longer-term outcomes would allow physicians to create very personalized plans of treatment by knowing which patients to treat more aggressively and which patients may not require additional treatment after surgery.

Having worked together for a number of years, when the core partnership was announced between Vanderbilt and the University of Melbourne, it "seemed like a natural fit that we might try to develop a more formal relationship," says Coffey. He also directs Vanderbilt's GI Special Program of Research Excellence and Mouse Models of Human Cancers Consortium; both of these large multi-investigator National Cancer Institute-funded grants focus on colorectal cancer. The Australian government recently launched a national program targeting colorectal cancer.

A year ago, a grant funded by the Vanderbilt International Office allowed for the creation of a colorectal cancer-federated database that is shared between the two universities. Though working on the same issue—a predictive genetic signature for colon cancer—the two researchers have taken very different approaches. Their shared database will allow for the comparison of information and the testing of the other's "poor prognosis" gene signatures based on data already gathered by both universities.

The ultimate goal of this project is a refined signature that works broadly and might also be used to predict prognosis in other types of cancers besides colorectal. Playing an important role in this effort is Dr. Dan Beauchamp, chair of Vanderbilt's Department of Surgery, whose lab is credited with actually identifying the "poor prognosis" signature that is being tested.



This is just the first step in this international partnership. We've discussed the possibilities of identifying complimentary expertise that resides in both institutions so that we could begin to develop innovative strategies to approach important biological problems. There is expertise in engineering, as well as in cell and molecular biology, at both universities. We hope to identify clinically relevant problems and tackle them simultaneously at both places, trying to solve them through real time flows of information.

—Dr. Robert J. Coffey Jr., Professor of Medicine

Education Support Structures

Paul Cobb wants to unlock the secret of improving the quality of middle school math education on a large-scale basis. The Peabody Chair of Teaching and Learning focuses his research on the question of how to take what works well on a small scale in particular classrooms and ensure that the same things will work just as well for teachers and their students when implemented within a large district, across a state or even nationwide.

In looking for answers, Cobb and his Vanderbilt colleague Thomas Smith, an Associate Professor of Public Policy and Education, are working with four large, urban school districts to provide a high quality level of instruction for all students.

"We seek to add value to the districts' reform efforts by providing them with detailed, actionable feedback on how their improvement efforts can be adjusted to make them more effective. In addition, we are testing a series of conjectures about school and district support structures that might enhance the impact of research-based curricula and high-quality teacher professional development on teachers' classroom practices," he says.

For the last decade and a half, Cobb has personally and professionally known David Clarke, director of the International Centre for Classroom Research (ICCR) within the University of Melbourne's Graduate School of Education. The ICCR was designed specifically "to support the generation, storage, and collaborative analysis of classroom data on an international scale," making it ideally suited for the work in which Cobb and Smith are interested. When the core partnership agreement was established between Vanderbilt and the University of Melbourne, Cobb thought the time was right to explore a collaborative project with his long-time

associate. This comparison of mathematical instructional methods between the United States and China is, Cobb explains, “a way to use Vanderbilt’s tools and interests and Clarke’s expertise.”

Cobb’s relationship with the University of Melbourne extends beyond the work he has proposed with David Clarke. In November 2008, he delivered a Dean’s Lecture on his work in the field of instructional improvement in mathematics.

In addition to their work with Melbourne, Cobb and Smith are also interested in math education in China, a country in the midst of its own education reform movement, particularly in the field of math.

“There’s lots of work in comparing [China’s] instructional methods, and in general, they are different from what happens in the U.S. classrooms. Those differences tend to favor the Chinese classrooms, and so we’re interested in studying and comparing the institutional setting of math instruction in grades 6–8 between the U.S. and China,” says Cobb.

Sometimes I think the United States is a big island, and because there is so much going on in particular research fields, we tend to look inward. I have found it very valuable to also look for interesting ideas going on outside... that aren’t necessarily current here, that are being developed without folks in the United States even being aware of them.

Global Health

One unique partnership under development by Alfredo Vergara has been designed to benefit a third institution, the Universidade Eduardo Mondlane in Mozambique, as much as or more than the sponsoring partners, Melbourne and Vanderbilt.

Vergara, Assistant Professor in the Department of Preventive Medicine and Deputy Director of Vanderbilt Institute for Global Health, is responsible for executing a multimillion-dollar federal grant funded by the U.S. President’s Emergency Plan for AIDS Relief (PEPFAR) initiative. Vergara’s grant is designed to advance the care and treatment of people with HIV/AIDS in Mozambique. Specifically, his Vanderbilt team helps the Ministry of Health in Mozambique build capacity to provide care and treatment for the country’s citizens. Rather than providing direct patient care, Vanderbilt’s focus is on the professional development of staff and the improved infrastructure of Mozambique clinics. Current challenges range

from the inadequacy of running water and electricity in the nation’s clinics to the country’s extremely rural environment in which the groundswell of patients needing treatment far outnumber health care providers.

In addition to working with the Ministry of Health, Vergara and his team also work with faculty at the Universidade Eduardo Mondlane (UEM), who are conducting original HIV/AIDS research. It is through this interaction that the idea of a partnership with the University of Melbourne began to seem important to Vergara for the sake of improving the quality of life for HIV/AIDS sufferers in Mozambique.

“I lived in Mozambique for six years and knew about the University of Melbourne and the work they do in the country,” says Vergara. “They have the broader scope to ours—training people in public health. There is a master’s level program in public health at UEM made possible with the support of University of Melbourne in areas such as curriculum development and technical input.”

When the core partnership between the two institutions was announced, it cemented in Vergara’s mind that the two UEM collaborators—Vanderbilt and University of Melbourne—could help grow the capacity of the UEM even more than their individual work. As a result, he has been in discussions with James Black, Associate Professor of Epidemiology at the University of Melbourne and staff member at the university’s Nossal Institute for Global Health, and Graham V. Browne, Professor of Medicine at the University of Melbourne and Foundation Director of Nossal Institute. While collaboration planning is in an early stage, enthusiasm is running high at all three institutions, with a joint meeting in Mozambique coming soon.

“When these kinds of collaborations happen in a developing country, someone is coming from a disadvantaged position; someone’s faculty has poor access to resources and grant money, so the collaborations are lopsided,” says Vergara.

Vergara is adamant that Vanderbilt and the University of Melbourne are equally committed to putting the needs of UEM—and their students, faculty, and researchers—first. He and his University of Melbourne collaborators believe that working together can best help UEM advance its own research and education initiatives and, most importantly, continue to grow and develop its own talent and future medical professionals for the sake of the country’s most vulnerable citizens.



We’re trying to make our parallel programs sync up so that everything we do is advancing the support of public health and applicable research in Mozambique.

—Dr. Alfredo Vergara, Assistant Professor of Preventive Medicine

For more information about Vanderbilt’s core partners, visit www.vanderbilt.edu/vio and select ‘collaborations.’

G'Day Melbourne

The task was daunting to say the least. Schedule a single meeting for more than 25 university administrators and faculty members from two institutions located thousands of miles and 15 time zones apart. An impossibility if required to happen face-to-face, technology made the next best thing possible—a videoconference featuring multiple room views and the simultaneous viewing of shared research presentations.

Without having to book a single flight, representatives from Vanderbilt University and the University of Melbourne engaged in a two-hour discussion about the institutions' core partnership as well as about several promising medical collaborations.

"We are energized by the possibilities evident from this pilot effort and are committed to making much fuller use of this technology in advancing international collaborations with colleagues at Melbourne and elsewhere," says Joel Harrington, Assistant Provost for International Affairs.

Three medical collaborations underway or in development between the two institutions in the areas of colorectal cancer, neuroscience, and global health were highlighted.

With support from the Vanderbilt International Office, Vanderbilt University Medical Center, and the University of Melbourne, Vanderbilt's Robert Coffey and his University of Melbourne collaborators Tony Burgess and Marianne Hibbert are working on the development of a shared database of colorectal cancer research. The goal is to use the shared data to create and implement new diagnostic and treatment options for colorectal cancer.

Vanderbilt's John Gore and the University of Melbourne's Gary Egan are interested in high field neuro-imaging. The purpose of their discussion was to share information on each other's areas of research and discuss ways they may work together to further their goals.

The Vanderbilt Institute for Global Health has strong clinical education programs in Mozambique. On the ground, they often work with Universidade Eduardo Mondlane (UEM) and are interested in exploring ways to build capacity of the MPH program there. The Nossal Institute of Global Health at Melbourne also works in Mozambique, providing training to students from UEM. Vanderbilt's Alfredo Vergara and the University of Melbourne's Jim Black discussed combining their efforts in Mozambique, in order to more effectively meet the needs of the region.

In addition to the researchers, the videoconference included Vanderbilt Chancellor Nicholas Zeppos and Provost Richard McCarty as well as a host of other faculty and administrators. University of Melbourne's Vice-Chancellor, Glyn Davis, and Deputy Vice-Chancellor for Global Relations Frank Larkins participated with Melbourne faculty and deans. Further video conferences between Vanderbilt and the University of Melbourne are slated for 2009 and will focus on collaborative projects in personalized medicine and health informatics and high performance computing.

Chancellor Nicholas Zeppos and Provost Richard McCarty along with other Vanderbilt administrators and researchers participated in a videoconference with their counterparts, thanks to a new video technology introduced by the University of Melbourne.



University of Melbourne

Location: Australia

Students: 34,720

Undergraduate students: 25,600

Postgraduate students: 5,951

Research Higher degree: 3,169

Ranking:

73 Academic Ranking of World Universities (Shanghai, 2008)

38 Times Higher Education Supplement (2008)

Schools

- Architecture, Building, and Planning
- Arts
- Economics and Commerce
- Education
- Engineering
- Land and Environment
- Law
- Medicine, Dentistry and Health Sciences
- Music
- School of Graduate Research
- Science
- Veterinary Science
- The Victorian College of the Arts
- Melbourne Business School