

## **A Very Loud Number**

by Stephen R. Forrest  
Vice President for Research  
University of Michigan

October 22, 2009

By now, many have heard that the University of Michigan broke the \$1,000,000,000 threshold for research expenditures in Fiscal Year 2009 (FY09). Indeed, by National Science Foundation accounting, U-M has moved into third place for research expenditures by U.S. universities in 2008 (the latest year for which such numbers are available). Only the University of California at San Francisco and the University of Wisconsin rank higher.

But wait! There are even more numbers I could mention. For example, at our last count, the U-M has earned \$150 million in ARRA research funds (otherwise known as “stimulus” spending), the largest share among all universities in the country.

This is all great news. However, these “loud” numbers (especially that \$1B milestone) can drown out some important messages. Most prominently, I must point out that the U-M can only do this well by having one of the highest quality and most productive faculty on the planet.

Indeed, it is crucial to realize that our great research depth is due to the contributions of thousands of players, working in hundreds of different disciplines. Unlike a large company where teams of employees focus with unwavering attention on making a specific product successful, our success comes from our intellectual diversity. In some ways, U-M’s achievements are indicative of our lack of focus on a single objective. Our impact becomes even more impressive when we assemble teams of researchers to explore strategic areas of need or interest. New ways of thinking are born, spawning approaches to problems never before tried.

While we laud our faculty and their productivity, we also must not forget that research successes usually require making strategic investments long before we can confidently predict that such investments will pay off.

Likewise, the quality of our faculty was not built over night. It is the result of 192 years of applying a concerted vision to create the best institution of higher education in the country. And because of that enduring effort, we should never take such a resource for granted. Many seemingly first-rate institutions that have taken decades to establish their excellence, have squandered their long efforts in a heart beat. The closing of the highly creative Bell Labs last year comes immediately to mind.

Our faculty members have put forward time and again both fascinating and important ideas for study and development. It might be our social scientists who collaborate with the military to try to understand how best to monitor the mental health of soldiers in the

face of a rising suicide rate. Or it's our engineers and physicists digging into the nature of materials to improve the capacity to generate electricity from solar energy. And then there are the biomedical scientists who study rare, or "orphan" diseases, that get little attention because of the small number of affected people, yet in the aggregate, affects millions.

These are but three of the thousands of examples from our campus. Indeed, the breadth of our research is a direct reflection of the incredible breadth and excellence of our many schools and colleges at the University of Michigan.

But as times (and the economy) change, how does the U-M maintain and improve its faculty strength? And how do we demonstrate leadership in solving the important questions facing humankind?

The recently acquired North Campus Research Complex (NCRC) provides us with a unique setting to engage in interdisciplinary research, where we can bring together teams of researchers into a common location to solve the really "big" problems posed by an exploding population on a warming planet. To address these problems, we must support faculty groups as well as work with government and industry partners.

The enormous energy and terrific ideas of our faculty, the imaginations of our student body, the architecture of the NCRC, the basic can-do spirit of our entrepreneurial community, and our willingness to partner are all ingredients that will catapult U-M into the forefront of research universities in the decades ahead.

This is the big news. If we listen, it overwhelms even the roar of the big numbers that are only one indication of what we can do at the University of Michigan.