

# University of Washington Leads in Innovation and Impact

Totem Report November 2, 2016

By John Hamer

Today's meeting celebrated the University of Washington: WOOF!

To set the tone, **President Cathy Gibson** introduced Past President **Dorothy Bullitt**, who teaches at the University of Washington's Evans School, for the invocation. Dorothy noted that the month of November has gloomy weather, nasty politics and bad traffic -- but she's always inspired by walking across the UW campus, with its beautiful architecture, colorful trees and diverse student body.

**Kim Moore** and **Trish Bostrom** (on banjo) led us in a rousing version of "This Land is Your Land."

**Trent Mummery**, citing **President Cathy's** theme of "Connecting for Good," urged members to introduce themselves and share where they went to college and what they studied during "Table Talk."

**Bill Fetterly** told how the Seattle Rotary Service Foundation supports the Business Mentors Program at the University of Washington's Foster School of Business. "Your annual pledges have helped students for almost 29 years," he said, and has "fostered (no pun intended)" 1,500 students. He introduced Gina Xaio, a senior in economics at UW, who thanked Rotarians for their generous support.



**Michael Verchot**, founding director of the Foster School's Consulting and Business Development Center, introduced Ana Mari Cauce, UW President and main program speaker.

She began by asking for a show of hands: How many are alumni of the UW? How many have children who went to the UW? How many have used UW healthcare facilities? And finally: How many pay taxes in this state? Nearly everyone raised their hands.

"The UW is deeply rooted in the state of Washington and the Puget Sound area," she said. "Name a business in this area and they have some sort of relationship with us." She cited a 100-year-old partnership with Boeing ("they gave us a wind tunnel") and more recent support from Microsoft and Amazon for high-technology programs and a new

computer-science building.

This is the 20<sup>th</sup> year of support from Seattle Rotary for the Business Development Center, she said, adding, “200 members of your club have mentored 1,000 students, including 300 in inner-city, minority- or women-owned businesses – and 90% said it improved their job performance after graduation.”



The Center has become a “national model,” and in December the UW will start a partnership with JP Morgan Chase to start similar centers in several other cities, she announced. “So we’re going to go national. Not bad!”

The UW generates \$12.5 million a year in revenues and 80,000 jobs statewide, she noted.

“We are basically in the talent business. What we are all about is human capital. We are a magnet for talent. Teachers and researchers come here from all over the world. They bring in grant money, and hire administrative assistants, technical workers, and others. We attract talent to this entire area. That talent attracts the best students. It’s very much a virtuous cycle. The more talent we have, the more talent we attract.”

But the UW also develops talent, she said, citing a major focus on STEM (Science, Technology, Engineering and Math) programs, plus a new partnership with Gonzaga University in Spokane to expand medical programs.

“We don’t just chase trends, but we do see trends, and are very cognizant of demographic changes, including the workforce needs in the state.”

She also noted, “There is magic in the relationship between students and teachers. I don’t see that changing. There are elements that really are timeless.”

She described how an introductory biology class may have about 800 students, but lectures are videotaped and students can watch with their friends in dorm rooms or wherever. Then the class is divided into groups of 5, 10 or 15 students with teaching assistants, and they do group exercises. The professor reviews the groups and determines further instruction needs.

“Not only do students learn more, but all 800 learn more than they would in a smaller classroom,” she said. “It also narrows the achievement gap between minorities and other students. This turns what used to be a ‘weeder’ class into a ‘feeder’ class. Teachers have gone from being the ‘sage on the stage’ to the ‘guide on the side.’”

The UW’s “Resilience Lab” has a goal: to normalize failure as part of the road to success. “When you have a great ambition, sometimes you’re gonna fall short,” she said. “And you often learn more from the failures.”

Saying, “I wish I could go back to college,” she cited the UW’s “Maker Spaces,” where students use 3D printers and other technologies to create things. Arts and sciences students are making stuff, and “business students are trolling to see what’s marketable.”



Last year, a student invented a set of gloves that turn sign language into words which come out on a mobile phone. He won a prestigious Massachusetts Institute of Technology award. “The focus on entrepreneurship runs across the university,” she said.

Learning inside the classroom is complemented by real-world experience, she said. “Very little happens alone; it’s about working in teams. We link talent inside the university with talent outside.”

The award she is “most proud of” was one ranking the UW “Number 5 in the world in terms of innovation,” she said. “That is really cool.”

Over the last year, 186 companies have “spun out of faculty research, and students are involved in most of this work,” she said, adding that 87% of patent teams included students. “The ability of our faculty to take their discoveries to the marketplace has become critical.”

Her vision for the UW? “To be the top university in the world in terms of impact. And we can do it!” That includes innovation in social issues, she said, such as livable cities, drug abuse and homelessness.

However, she said that the UW would not abandon the “long ball game” of basic research that often leads to new discoveries. “This may sound a little woo-woo, but I believe that the human imagination takes us to important places, even if we don’t know where that is at the time.”

For example, she cited laser surgery: “Lasers came from physicists who were literally trying to touch the face of God and understand how the universe began. Basic research is the seed core for applications in years to come.”

She mentioned a UW professor who had done “condensed matter research” that led to “our 7<sup>th</sup> Nobel Prize.” She will visit Stockholm soon for the Nobel ceremony. “You’re required to wear a ball gown,” she said, adding, “There’s not much that can get me into a ball gown, but the Nobel Prize can do it.”

In moving ideas from basic research to the real world, she said, a lot happens by chance, such as people talking at a lunch or dinner party. “We’re trying to create the kinds of situations that give serendipity a push. How can we encourage that?” When people say, “You’re doing so many things. Aren’t you doing too much?” she replies, “Actually I think that is a real strength. It’s often in the spaces between disciplines that new and exciting discoveries can take place.”

The UW’s Institute of Health Metrics and Evaluation is leading a new focus on population health, which brings “big data” techniques together with medical knowledge to have global impact. The Institute won a prize recently after the Health Minister of Rwanda used IHME data to reveal that one of the nation’s biggest killers was indoor air pollution. So they bought people new cook stoves that didn’t emit pollution and many lives were saved.

Another new focus is on “mobile health.” A Macarthur Fellow at UW developed a new way to self-diagnose auto-immune diseases and view results on a mobile phone. “I can test myself for lung function on my own,” said Cauce. “Think of someone who has to drive 40 miles for an appointment, plus the big difference in cost. If you go to the doctor every 6 months, you’re either going too early or too late. These devices let you check yourself every month or even more often.”

Cauce concluded that she wants to “get the whole university to focus on community health. Bring us as a whole together to focus on those things that make a difference.”

Finally, **President Cathy’s** “Call to Action” was, “Let’s all find something and be active Rotarians in the month of November.”