



Alumni News

A Kiss Instead of a Handshake?



A recent report by scientists at the University of Colorado found that the hands hold significantly more diverse bacteria – up to 150 in the samples studied – than other parts of the body, including the usual suspects: the esophagus, mouth and lower intestine.

And, interestingly, women have a far greater diversity of microbes on their palms than men (sorry, ladies). The results made for clever headlines, such as the Associated Press's "Study: Women Lead Men in Bacteria, Hands Down."

What the articles didn't say is that the data was produced by the Environmental Genomics Core (EnGenCore) laboratory in the University of South Carolina's Arnold School of Public Health, using the newest and most powerful gene sequencing technology that is available in very few places around the world.

Moreover, Moore School of Business alumnus **John Busch** (IMBA '08) has started his own company, EnGenCore LLC, to manage the laboratory's business and steer its growth.

The laboratory's services are much in demand. Its clients number more than 80 researchers from universities, government and for-profit organizations, representing such notable institutions as Harvard University, the National Institutes of Health and the National Oceanic and Atmospheric Administration.

Previous technology took weeks and tens of thousands of dollars to produce results. EnGenCore's Roche 454 FLX sequencer system can provide results of two gene sequencings per day at much lower costs.

The University of Colorado study, titled "The Influence of Sex, Handedness, and Washing on the Diversity of Hand Surface Bacteria" and published in the Proceedings of the National Academy of Sciences, offered an "unprecedented level of detail" according to its authors.

"For the past 30 years, first-generation sequencing technology has been the standard," said EnGenCore's director, Dr. Joe Jones. "A major contribution of this facility is that our work helps enable researchers to see what was previously unknown."

Since EnGenCore's inception in 2007, demand for its services has grown at a pace too great for Jones to manage on his own.

Enter Busch, who is managing the business functions of the facility. His management will free Jones to oversee the research. The marketing component should be easy.

"The one problem they had with the lab was there was more demand than they could handle because the word spread quickly that they do really good work," said Busch. "One person at Harvard told his friends, and they told their friends; word spread at conferences, and before you know it, Joe had a big backlog."

Busch was previously a military officer in the U.S. Air Force Air National Guard for more than 20 years, and flew for Delta Airlines for nine years. He earned a master's in Strategic Studies from the U.S. Air Force War College prior to attending the Moore School of Business, where he completed the Arabic Track within the International MBA program in May.

Busch learned of EnGenCore during a casual conversation with Chad Hardaway, USC's associate director of the Intellectual Property Office. Hardaway's office is helping to shepherd USC research initiatives through to commercialization.

Busch saw a unique opportunity to leverage the laboratory's reputation and increase its productivity. After months of discussion and planning between the principals, EnGenCore LLC was formed in September 2008. The company's stated mission is to make EnGenCore a leader in the global DNA sequencing industry.

To that end, EnGenCore is hiring additional research staff to help the lab reach its current capacity. Busch aims to purchase an additional gene sequencing system in the future to expand production.

EnGenCore's placement in the School of Public Health is appropriate; much of its research results will have implications for treating illness and improving human health. Defining what constitutes a "healthy" bacterial community on the body, for example, "will be critical for the International Human Microbiome Project," the Colorado researchers said.

Busch reports that one of EnGenCore's clients is patenting a method to determine if an individual has a genome for colon cancer, and precisely the best course of treatment for that individual.

"It's like an onion," Busch says of the technology. "Every time you peel back a layer, you find something else. A lot of researchers are sequencing something for the very first time (think of all the organisms on the planet)... That's why we think there will continue to be a need for this in the future."

EnGenCore LLC is a SCLaunch! company. SCLaunch! is a collaboration among the South Carolina Research Authority and South Carolina's three major research universities: the University of South Carolina, Clemson University, and the Medical University of South Carolina to help start-up companies leverage intellectual property and encourage partnerships between the public and private sectors.

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