

Event focuses on marine bio

By Woody Westlake

Under the direction of the Research Triangle Park-based North Carolina Biotechnology Center, North Carolina has become the third-ranked state in the nation in the rapidly growing field of biotechnology, following closely behind industry leaders California and Massachusetts.

On March 12, as part of Marine Biotechnology Week in Wilmington, the Biotechnology Center held a marine biotechnology conference for non-scientific business leaders at the University of North Carolina Wilmington Center for Marine Sciences, the first conference of its kind in Southeastern North Carolina. It gave an overview of the emerging industry that is playing an increasingly significant role in the economy and business life of this region.

Dr. Daniel Baden, director of UNCW's Center for Marine Science and the William R. Kenan Distinguished Professor of Marine Science, moderated the panel discussion. Baden provides leadership in the marine biotechnology program of North Carolina (MARBIONC), which has resulted in several types of intellectual property, including patents in composition of matter, formulation and uses of natural products as therapeutics. "North Carolina is well-positioned for success in the burgeoning field of marine biotechnology," Baden said. "With our coastline, universities and other research facilities, educated labor force and strong government support, we may well become the leading marine biotechnology state in the country."

The biotechnology industry was launched in North Carolina 23 years ago by then-Governor James B. Hunt in an attempt to offset the dramatic job losses in the tobacco and textile industries. Today, more than 300 biotechnology companies employ nearly 50,000 people in North Carolina.

While the field can seem daunting to the layman, biotechnology in simple terms is a collection of techniques that use living cells and the molecules within them to make products or solve

problems across many industries. It draws on numerous disciplines, including biochemistry, genetics, immunology, microbiology, molecular biology, genomics and other life sciences. Marine biotechnology, centering primarily on the vast diversity of ocean and sea life, is one of the major divisions of the field and is finding a home among numerous public and private institutions along the North Carolina coast.

The program included a case study presented by the 23-year-old CEO of a marine biotechnology company that began as a spin-off from a North Carolina university. Sarah Yocum is the head of Aqualutions LLC, a biotechnology company she started at Wake Forest University while still a biology student there. "A

NC is No. 3 in biotechnology

team of students and I had developed diagnostic and therapeutic tools for the catfish farming industry which we wanted to market," she said. "Under the Kaufman Foundation Initiative at Wake Forest, we were able to form Aqualutions, and we are now ready to bring our products to market."

According to Yocum, Aqualutions' products and technology could save the \$500-million U.S. catfish farming industry \$135 million a year in losses stemming from the inability to correctly diagnose bacteria-caused disease in catfish. It could save the industry an additional \$42 million annually, which it spends on antibiotics.

The half-day conference also featured a dozen speakers representing many aspects of the field, including education, government and law. "Events of this nature – intended to educate and generate support from non-scientific business leaders – are essential for the continued rapid growth of the biotechnology industry in North Carolina," said Randall Johnson, director of the southeastern office of the North Carolina Biotechnology Center located in Wilmington. "We need to 'de-mystify' a field that can appear difficult to understand but which is bringing measurable benefits to our state and the southeastern region."