A Buffalo nanomaterials firm is hoping a new investment deal will help it accelerate product development and commercialization efforts.

NanoAxis LLC is a six-year-old firm that focuses on using nanomaterials for various biomedical applications related to drug delivery and point-of-care devices.

The company recently became one of nine investors in NanoApps Medical Inc., an Ontario-based nanomedicine company with existing development relationships at the Mayo Clinic and Louisiana State University. Financial terms were not disclosed.

The relationship is expected to help both companies speed up the development process while opening up access to talent on both sides, said Dr. Krishnan Chakravarthy, founder and president at NanoAxis.

That includes helping NanoApps develop a breath-based process to detect various disease biomarkers as opposed to traditional blood draws, while integrating the process into therapeutic platforms under development at NanoAxis for neurological disease, Alzheimer’s, as well as gene therapy products to treat various cancers.

“This would be a paradigm change,” he said. “Instead of having blood be the medium, we’re looking at breath as a completely non-invasive way of reading different markers.”

NanoAxis was formed in 2008 after Chakravarthy and several partners won a business plan competition at the University at Buffalo. The initial plan was to focus on using nanotechnology to manufacture and distribute quantum dots, but it has since transitioned to explore nanotech-based applications.

“Anything with biomedical sciences, the process chain for developing devices that can be approved or put into clinical trials is a very long process,” he said. “We’ve been operating
almost in start-up mode, but we’re hoping to get out of that this year."

The company remains in pre-revenue stage, with most of its principals splitting their time with full-time jobs. Chakravarthy himself is in Baltimore finishing up the final two years of an anesthesiology fellowship at **Johns Hopkins University**; while Ayden Jacob, the company’s director of business development in translational medicine, is working at University of California at San Francisco’s department of interventional oncology and radiology as a biomedical engineer. Several are working in town: Tracey Ignatowski, director of research and development and co-director of neuroscience, is working as a research associate professor at UB; while Dr. Scott Nodzo, director of orthopedics, is a surgery resident with UB Orthopaedics.

The company is based here in Buffalo, but also operates labs in India. Pre-clinical development has been outsourced in Buffalo as well as Cleveland and Columbus.

Chakravarthy said the hope is to invest in developing more work at UB in the next year or so.

“We’ve built a very good team around the technology,” he said. “We want to build innovative materials that can affect the field in a drastic way.”

The company hopes to gain approvals from the Food & Drug Administration (FDA) later this year to begin clinical trials on two projects, including its lead product, a collaboration with two UB researchers for a treatment method of infections related to prosthetic joints and implants.

With the new relationship with NanoApps, it’s also working on expanding the breath-based technology for use in infectious disease and diabetes models.

“Now that we are owners, we will help them accelerate the development of that product to market, taking it from conceptual design to putting it into a product that can be gotten to FDA clinical trials and hopefully for patient use,” Chakravarthy said.

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