

Dr. Sathya Gangadharan

Daytona Beach, Florida



[Zero-G Horizons Technologies, Inc.](#)

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Learn about Florida Entrepreneur Dr. Sathya Gangadharan:

Since 1990, Dr. Sathya Gangadharan (a.k.a. Dr. G.), Founder of Zero G Horizons, has served as a faculty member at Embry-Riddle Aeronautical University and a private pilot. He's been part of an incredible transformation of a university, once largely thought of as a small flight school, to the world's largest, fully accredited university specializing in aviation and aerospace and offering degrees in all the four colleges (Aviation, Arts & Sciences, Business, and Engineering). Dr. G. shared the story behind his journey and how, through the work he's doing with Zero-G Horizons Technologies, he plans to create local jobs and provide a much needed service to the defense industry, academia and private enterprises.

"I left India after undergrad in Mechanical Engineering to pursue a

master's degree at Memorial University at Newfoundland, Canada, in Ocean Engineering," he said. "Because of Newfoundland's connection to the ocean, that experience opened my eyes to the underwater world. I worked on underwater vehicles and also designed and experimented on jet propulsion systems. From there, I moved to Blacksburg, VA, where I earned my Doctor of Philosophy in Aerospace Engineering at Virginia Polytechnic Institute and State University (a.k.a Virginia Tech). While at Virginia Tech, I got my Professional Engineer's License (P.E.). When it came time to look for faculty positions, ERAU was a very small school, but the new program that they were starting in Engineering Physics felt like a great opportunity."

Dr. G. went on to get his Certified Manufacturers License (C.Mfg.E.) that has greatly benefited him in manufacturing matters. He was primarily responsible for developing a University-Industry Partnership in mid 1900s called C-DAM (Consortium for Design, Automation and Manufacturing) as a partnership between Embry-Riddle and Volusia Manufacturers Association under the guidance of Dr. Steven Sliwa, the President of Embry-Riddle at that time. Over the years, Dr. G. was awarded the Outstanding Research Award in 2012, Outstanding Service Award 2018 and the Mc Nair Scholars Faculty Mentor Award in 2014. He also served as the Speaker of the Faculty for 2017-2019 as a part of the Faculty Senate, Daytona Campus.

In March 2018, after years of preparing generations of engineers for life "on the other side", Gangadharan was ready to branch out of academia and flex his own entrepreneurial muscles. The Leadership Program at Embry-Riddle, that Dr. G. participated in for three years, paved the entrepreneurial foundation to try new things, take risks and most

importantly, be a leader.

“I wanted to expand beyond the academic community and being limited to publishing papers,” he said. “The best way to see a vision come true is to link it to the real world and do it. I have entrepreneurial skills in me and thought to myself, ‘why not take the risk and go for it’. It was time to think of the commercial marketplace with a 24/7 business thinking.”

When Dr. G. launched the company in March 2018, he’d already missed the window to submit proposals for most grants. Instead, he focused on administrative tasks to ensure the company was licensed and set up properly and used his time to chart a course for future success. He also participated in several entrepreneurial venture showcases, which transformed concepts into workable products and, because of interest and feedback, gave him the confidence to keep going. By the beginning of 2019, Gangadharan and a former graduate student who was hired as employee number one, were ready to submit proposals for contracts and grants.

“We focused on Small Business Innovation Research (SBIR) contracts,” he said. “We got funded on two of them. One was through the U.S. Navy and focused on an underwater attachment device. We completed Phase I of this project by the beginning of 2020. Phase II is expected to start soon. The other proposal was funded by NASA. I was a NASA Faculty Fellow for three summers between 2003 and 2005, which led to strong our connections with NASA on ‘fuel slosh’ research and development. This later led to the development of the concept of propellant transfer in orbit – basically a gas station in space.”

Other proposals in the works include three more to work with NASA and

two more with the U.S. Army. These include work on unmanned autonomous vehicles, a hybrid active damping system for fuel slosh in propellant tanks using magnets, and an integrated multi-disciplinary design approach for the development of cryogenic propellant tanks in collaboration with Embry-Riddle and University of Florida.

“We’re growing fast and expanding, but at the same time, we’re building a foundation to handle much more in the future,” Dr. G. said. “We have a nice space that includes an office, a water test tank, fabrication space, and we’re working on lining up candidates for full-time jobs.”

Zero-G Horizons Technologies recently became a member of the Volusia County Manufacturers Association (VMA). According to Dr. G., this symbiotic relationship has the potential to benefit Zero-G Horizons Technologies and many local manufacturers.

“We made a proposal to basically hold hands and be a strategic partner with them,” he said. “Many of these manufacturers don’t have access to high-tech resources and facilities to go after certain projects at the national level, but we do. Through partnerships, we would do the high-tech and front end work while they do the manufacturing. We’d have new business and they’d be able to capture a new market and expand their product base. This partnership will be a win-win situation and will develop the economic base of the local area”

Dr. G., who maintains an extremely optimistic outlook and excitement about the future of Zero-G Horizons Technologies, offers some great advice for aspiring entrepreneurs. “I tell my students all the time, ‘You have to take risks,’” he said. “You can’t just sit back and expect things to happen. Take on a challenge and expect to work hard. It’s been an

incredible experience so far. Also, remember that entrepreneurship is a 24/7 job. There's always something to do or think about all the time. Always believe in yourself and tell yourself that 'you can do it.'"

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