

U.S. Patent Office Awards Patent to SaiOx Inventor of Hespiro™ Non-Invasive Respiratory Assist Device Designed to Help COVID-19 Patients Breathe

SaiOx, Inc. CEO Manny Teran announced today that the United States Patent Office has awarded a patent to Dr. Sairam Parthasarathy, M.D., colleague, inventor and University of Arizona pulmonologist, and Dr. Marvin Slepian, Regents Professor of Medicine, Division of Cardiology, UA College of Medicine, for the firm's Hespipro™ non-invasive respiratory assist device (RAD) designed to help COVID-19, COPD, and other patients breathe more easily.

WHAT

Hespiro™ is a new type of helium-oxygen respiratory assist system designed to help treat patients with respiratory conditions, including COVID-19, while reducing the need for scarce mechanical ventilators. It not only delivers a mixture of helium and oxygen, but it captures exhaled gas and scrubs it free of carbon dioxide in a completely closed “rebreather” system, important when aerosolization of the coronavirus has been found to spread the disease. SaiOx licensed the intellectual property for the RAD invention from the University of Arizona.

While not a replacement for a hospital ventilator, inventor Dr. Parthasarathy says the SaiOx system helps patients who can still breathe on their own to breathe more easily, while keeping germs like coronavirus safely contained. The team originally created it as an at-home device for asthma and pulmonary disease patients. “Then COVID hit,” he said, “And we saw that we could make an impact if made available quickly to clinicians and first responders.”

IMPACT

SaiOx is looking to fast-track development of a basic version of Hespipro™ for use under “emergency use authorization” for COVID 19-related diagnostic therapies and devices issued by the U.S. Food and Drug Administration.

“By having a closed-circuit system with a mask that covers both nose and mouth, clinicians can give people assistance immediately, and do so with less chance of infection,” Dr. Parthasarathy notes. He says front line medical personnel can use the Hespipro™ to deliver oxygen in the field and transport patients without endangering themselves or bystanders.

CEO Teran believes the basic Hespipro™ system could be ready for manufacture in a matter of months. “We’re downshifting to make a device that can be produced as a tool for front-line clinicians,” he said. “We can build this device quickly because of how rapidly our team mobilized around an elegant design that can be manufactured locally.”

WHO

The technology at the heart of the Hespipro™ system was developed by Dr. Sairam Parthasarathy, a UA professor of pulmonology and director of the UA Center for Sleep and Circadian Sciences, and Dr. Marvin



Slepian, a UA Regents professor of medicine, cardiologist and co-founder of Tucson-based artificial heart maker SynCardia Systems.

SaiOx, Inc. was founded by a veteran team of seasoned executives with experience in taking technology ideas to market. That team includes UA engineering alumnus Manny Teran, former CEO of the local tech-development firm Aztera until 2018, Don Finkle, former operations executive at Bic and So Clean, and Tony Grega, seasoned CFO for a number of local startups including Sion Power and MC Technologies.

In January of 2020, CEO Teran started working with Dr. Parthasarathy and the UA's technology commercialization team at Tech Launch Arizona on the Hespipro™ system.



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