

Luis Garcia-Rubio, Ph.D. Diagnostic Quantum Leap

Luis Garcia-Rubio, Ph.D., is a professor of chemical engineering at the USF College of Marine Science. He is a nationally renowned researcher, an inventor with 19 patents and co-founder of Ocean Optics Inc. He is currently focusing on Claro Scientific LLC, an early-stage biomedical company with technology providing rapid disease detection.

Q. *Why are you so excited about your newest discovery?*

A. We have a new platform to detect disease immediately, right when people begin to manifest the symptoms, and we can do it inexpensively. With our portable lab, it's possible for people anywhere in the world to get the best medical treatment. We have a moral responsibility to do everything we can to bring this technology to fruition.

Q. *How does it work?*

A. We shine light on the cells and their reaction tells us something. Mathematical models allow us to interpret the data. With traditional lab techniques, it may take seven days to diagnose malaria. With inexpensive handheld biophotonic sensors, we can do our testing in three minutes, and it's noninvasive. Right now, we have 70 pathogens and disease markers in our

database that we can identify. We can detect and classify one contaminate particle per million red blood cells. And it's not just blood we can analyze, it's any fluid.

Q. *All of this sounds quite radical.*

A. We are talking about revolutionizing diagnosis of disease; it's a quantum leap.

Q. *What's next?*

A. I'm taking a leave of absence from USF to take our technology to the next level through Claro Scientific. The applications for this technology are tremendous – medical, environmental, commercial. We have a Los Alamos national security project under way for the military. But I'll be back. I'm a professor. I've nurtured 20 Ph.D. students and 50 master's students. Not many faculty can claim that. The opportunity to impact someone's life as a teacher is very rewarding. ■



Ocean Optics Inc.

“
We are
talking about
revolutionizing
diagnosis of
disease.
”