



## WEBINARS

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# Revolutionizing Measurements: Next-Generation Strategies for Modern Phase Detection

Tuesday, June 20, 2023 10:00 AM - 11:00 AM EDT

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Presented by



## .: About This Webinar

Liquid Instruments co-founder and CEO Daniel Shaddock shares next-generation strategies to perform optical phase locking using digitally implemented, FPGA-based lock-in amplifiers and phasemeters. He covers advanced phase measurement techniques that are essential for applications such as coherent beam combining (CBC), optical metrology, free-space optical (FSO) communication, and gravitational wave detection. He also introduces phase and compares several common phase measurement techniques.

Learn how to improve measurement confidence and speed with dedicated phase detection, consolidate legacy test equipment, and reduce costs with software-defined instrumentation. Shaddock also shares new strategies to optimize your optics and photonics experiments by:

- Selecting the best phase measurement technique for a variety of measurement challenges.
- Understanding the advantages of real-time digital signal processing for laser frequency stabilization and phase locking.
- Leveraging flexible, FPGA-based processing with a digital-first approach to quickly adapt instrumentation to measurement requirements.
- Building sophisticated signal-processing pipelines with multi-instrument capabilities.

The webinar includes a presentation, demonstration, and live Q&A session.

### Who should attend:

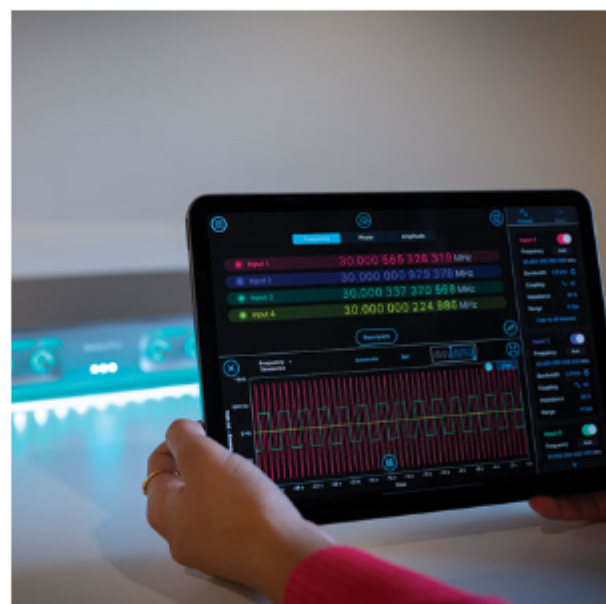
Optics and photonics engineers, researchers, professors, advisers, and Ph.D. students who work in microscopy and spectroscopy. Researchers who are interested in gravitational wave detection and laser frequency stabilization. R&D scientists or lab equipment managers who utilize detectors, fiber optics, lasers systems, or optical components in industries such as aerospace, agriculture, automotive, medicine, communications, defense, semiconductor, or energy.

### About the presenter:

Daniel Shaddock, Ph.D., is co-founder and CEO of Liquid Instruments and a professor of physics at the Australian National University, with research focused on precision measurements using advanced digital signal processing. Prior to this, he was a director's fellow at NASA's Jet Propulsion Laboratory, where he served as interferometer architect for the LISA mission. Shaddock was a co-author on the paper announcing the observation of gravitational waves, an achievement that was awarded the 2017 Nobel Prize in Physics.

### About Liquid Instruments:

Liquid Instruments delivers modern, software-defined test and measurement solutions that provide advanced capabilities, a great user experience, and custom programmability for maximum flexibility and performance in a range of applications. As a leader in precision instrumentation, Liquid Instruments is revolutionizing the way that scientists, engineers, and students learn, discover, and create. Their products leverage the computational power of FPGAs to create highly versatile equipment. For more information, visit [liquidinstruments.com](http://liquidinstruments.com).



## .: Mark Your Calendar

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**Time: 10:00 AM - 11:00 AM EDT**

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- Revolutionizing Infrared Detection: Five Key Advantages of InAs and InAsSb-Based Detectors for Unmatched Performance, 6/22/2023 10:00:00 AM EDT

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- External Light Sources for Co-Packaged Optics: Applications and Beyond

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