

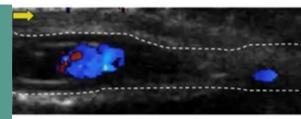


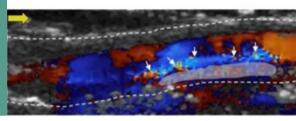
# IMPROVING SIGNALS IN ULTRASOUND USING CONTRAST AGENTS

February 3, 2024 9 AM - 3:30 PM

118 Chambers Building University Park, PA 16802

Target Audience: Secondary physics, engineering, and technology teachers





## **OBJECTIVES**

Ultrasound technology is frequently used in medicine as an imaging tool to research conditions of the human body, diagnose disease, and to monitor certain conditions. Researchers at Penn State in the Precision Therapeutics and Bioresponsive Materials Lab led by Dr. Scott Medina are working to further develop ultrasound methodologies that can be rapidly translated into the clinic to improve human health. One project in Dr. Medina's lab is working to improve ultrasound imaging with the use of contrast agents. Participants of this free in-person workshop will make their own contrast agent, examine their contrast agent under the microscope, measure the size of particles using ImageJ, and and measure the signal of the agent using ultrasound. With support from Dr. Medina, graduate students, and CSATS, teachers will leave the workshop able to use these activities to help students learn about ultrasound signaling.



# STEELE STANDARDS ADDRESSED

3.2.9-12.U. Evaluate questions about the advantages of using digital transmission and storage of information.

3.2.9-12.X. Communicate technical information about how some technological devices use the principles of wave behavior and wave interactions with matter to transmit and capture information and energy.



# PARTICIPANT BENEFITS

- Free one-day professional development
- Workshop aligned to NGSS and Pennsylvania STEELS Standards
- Act 48 credit is available upon request
- Lunch provided by Penn State Center for Science and the Schools



### **CONTACT:**

Amber Cesare, STEM Education Specialist at <a href="mailto:ams5306@psu.edu">ams5306@psu.edu</a>

This publication is available in alternative media on request. Penn State encourages qualified persons with disabilities to participate in its programs and activities. If you anticipate needing any type of accommodation or have questions about the physical access provided, please contact ams5306@psu.edu in advance of your participation or visit. Penn State is an equal opportunity, affirmative action employer, and is committed to providing employment opportunities to all qualified applicants without regard to race, color, religion, age, sex, sexual orientation, gender identity, national origin, disability or protected veteran status. U.Ed. EDU 24-61.