



Capability Statement

Smart Electrically Powered And Networked Textile Systems (SMART ePANTS) Research Program

Wave Sciences is a small, privately-held, research and development company specializing in audio technology. Since 2008, we have provided the law enforcement, military, and security communities with high quality, robust, and discreet innovative audio solutions for both officer safety and evidentiary purposes. We have directly relevant experience with the design, construction, manufacture, deployment of, and training in, smart garments for audio applications.

Wearable Microphone Arrays - Worn Underneath to Overhear

We have manufactured and sold our wearable beamforming microphone arrays in the US and internationally for over eight years. Discreetly inserted into the front and back of a garment, they are used by government agencies for audio real-time monitoring and recording. They can be used at stand-off distances of up to 10 meters in indoor, noisy, reverberant environments, and up to 40 meters outdoors.

We have four US patents comprehensively covering the use of smart garments to capture, monitor, and record audio.

GLIMPSE™ - Focus on the Subject, Blur the Rest

Our breakthrough source separation software, GLIMPSE, enables us to extract intelligible audio from even the harshest conditions. This unprecedented capability can do so with the softest voices in extreme levels of noise, reverberation, and co-speech, including both interfering and moving noise sources. It has been utilized for diverse purposes,



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including audio forensics and media exploitation, underwater acoustics, and geophysical acoustics. Together with a smart garment microphone array we can demonstrate robust extraction of individual voices even in the midst of a Cocktail Party babel from distances of up to 5 meters and even further.

Our Partners

We work with with various academic and other research laboratories on smart garment technology, including Clemson University and Boys Town National Research Hospital. We are also industry members of the NSF ASSIST consortium run by North Carolina State University.

Our Goal

We propose to provide our expertise and experience with smart garment audio as subcontractors and consultants to proposing teams.

Contact Information

Wave Sciences LLC
91 Rutledge Ave, Charleston SC 29401
(843) 793-3030
www.wavesciencescorp.com

TPOC: J Keith McElveen
M: (843) 469-4146
keith.mcelveen@wavesciencescorp.com

CPOC: Karen Lucas
M: (202) 906-9181
karen.lucas@wavesciencescorp.com