

# Press Release

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## **Polytec's VibroGo portable vibrometer featured on Netflix "Secret World of Sound" series narrated by David Attenborough**

Dr. Rex Cocroft utilizes Polytec's VibroGo portable vibrometer to unlock the secret world of treehopper communication

In a groundbreaking study, Dr. Rex Cocroft, a renowned biologist at the University of Missouri, utilized Polytec's VibroGo portable vibrometer to delve into the fascinating and elusive world of treehopper communication. This research has been spotlighted in the latest episode of "The Secret World of Sounds" with Sir David Attenborough, captivating audiences with the hidden symphonies of nature's quietest creatures.

### **Treehoppers: The Silent Singers**

"Many of the sounds we hear in nature are voices of animals, but some creatures are so quiet, they appear to be making no sound at all," narrated David Attenborough in the behind-the-scenes video. This statement set the stage for Dr. Cocroft's research, which aims to reveal the mysterious communication methods of treehoppers.

Dr. Cocroft, who has long been fascinated by creatures that communicate through vibrations, states, "There are at least 200,000 species out there singing in ways that are silent to us, and that is way more songs than if you combine all the birds, and the whales, and the fish, and the frogs out there. So, most of the animal sounds are the ones that we don't actually hear."

### **The Role of Polytec's VibroGo Vibrometer**

Studying these silent singers poses a unique challenge. However, with the aid of Polytec's VibroGo portable vibrometer, Dr. Cocroft has successfully captured and amplified these minute vibrations. This sophisticated device uses a laser beam to detect the slightest vibrations on the surface of objects, allowing researchers to listen to the otherwise inaudible songs of treehoppers.

"This little treehopper sounds like a tap-dancing monkey. Another one sounded like an owl laughing at its own joke. One male treehopper sounded like a clucking hen. Another one sounded like a woodpecker followed by a car honking. Oh my gosh, I

Publication free of charge

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was just lost at that moment. There was no going back, because I heard these wonderful sounds that were right there. In one small plant,” Dr. Cocroft shared.

## **A Collaborative Effort**

The intriguing discovery caught the attention of the film crew led by director Nalini Crack. With assistance from Dr. Vikrant Palan, Business Development Manager at Polytec, Inc., and their state-of-the-art vibrometer, they set out to record the courtship duet of a treehopper. The crew meticulously placed a female treehopper on the stem of a plant, and Dr. Cocroft suggested adding a male to observe their communication.

“Let’s try putting a male on there. See if we can get him calling,” Dr. Cocroft instructed. Initially, the male's vibrations did not elicit a response from the female. However, persistence paid off, and eventually, the female answered, marking a significant moment in understanding these insects' communication.

“These insects that sing silently are just as magical in their way,” Dr. Cocroft remarked.

## **A New Understanding of Nature's Secret Sounds**

Dr. Cocroft's research is only the beginning of uncovering the secret sounds of nature’s smallest creatures. The collaboration with Polytec, Inc. and the innovative use of their VibroGo portable vibrometer has opened new avenues for studying and appreciating the rich, yet silent, world of treehopper communication.

## **About Dr. Rex Cocroft**

Dr. Rex Cocroft is a biologist at the University of Missouri, specializing in the study of insect communication. His work focuses on understanding how insects use vibrations to communicate, which is common, but under-researched area. His research also looks at how plants might "hear" these vibrations and react to them, expanding the understanding of communication beyond just the insects themselves.

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## About Polytec

Polytec is a leading provider of advanced optical measurement solutions, which is used in a wide range of scientific and industrial applications, ranging from microscopic to macroscopic. Learn more <https://www.polytec.com/us>

## About "Secret World of Sounds"

"The Secret World of Sounds" is a documentary series hosted by Sir David Attenborough, exploring the hidden and often inaudible sounds of nature. The series aims to deepen our understanding and appreciation of the natural world's auditory landscape.

Produced by Humble Bee Films Ltd. and InField Fly Productions

More information – <https://gem.cbc.ca/secret-world-of-sound>

<https://www.netflix.com/title/81571854>



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