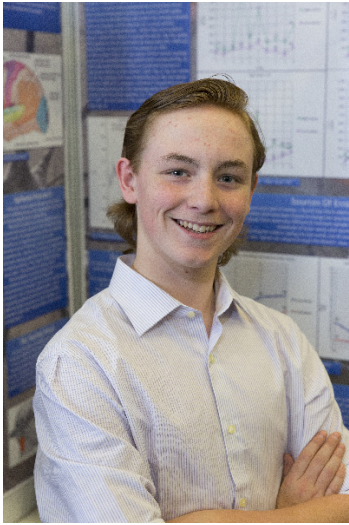


## CWSF 2018 - Ottawa, Ontario



### Peter Altenkirk

#### Speak Your Mind! A Study of the Correlation Between Brain Waves and Speech

**Challenge:** Health

**Category:** Intermediate

**Region:** Chignecto West

**City:** Lower Onslow, NS

**School:** Central Colchester Junior High School

**Abstract:** The goal of this project is to find similarities between brainwaves of a subject when different words are spoken by the subject. Specifically, I am looking for correlations that could be used to design a device to speak for speech disability patients. Although other speaking aid systems exist, none are as fluent as real speech, or your brainwaves.

#### Biography

My name is Peter Nicholas Altenkirk and I live with my mom, dad, sister, and twin brother in Truro Nova Scotia. I attend Central Colchester Junior High School in Onslow. Outside of science fair, I enjoy building and designing prototype electrical inventions. (things like a backpack with a built in Bluetooth speaker.) I also fix tablets and phones. I bike to school when the weathers nice, and every year I attend the MS society bike tour in New Brunswick. My project this year involves reading electrical brainwaves and their similarities to speech. My goal is to be able to build a device that can take your electrical brainwaves and convert them into speech. I was inspired to do this project when I learned that there are hundreds of thousands of Canadians who have speaking disorders as a result of a stroke, and that there aren't many fully successful treatments out there. I tested ten people's brainwaves while they spoke to find out if there are patterns that a computer could examine to help it decide what the subject was saying. As for advice for students, just find something your passionate about and grab it by the horns.

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