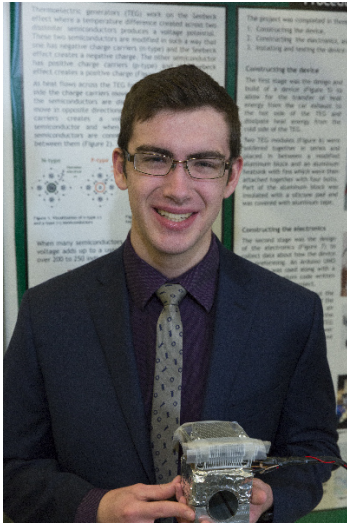


CWSF 2018 - Ottawa, Ontario



Benjamin Waldie

Recovering Waste Energy from a Car Exhaust using a Thermoelectric Generator

Challenge: Energy

Category: Intermediate

Region: Bay Area

City: Mississauga, ON

School: King's Christian Collegiate

Abstract: The purpose of this project was to create a device capable of capturing waste heat from a car exhaust and convert this heat energy into electrical energy using a Thermoelectric Generator. By the end of this project, the device was creating on average 0.5 watts in city driving conditions and 1.6 watts on the highway.

Biography

Benjamin Waldie is currently a grade 10 student attending Kings Christian Collegiate. He is passionate about all things mechanical and electrical. This love for mechanics has inspired him to join his high school robotics team as both a fabricator of the robot and as its driver. Benjamin also has a love for aircraft and flight and enjoys visiting a local antique flying club where he has had the opportunity to pilot a vintage Tiger Moth aircraft. The inspiration for this project came from an interest in vehicles, their operations, and how they may be improved. This motivated him to find a way to capture waste heat energy from a vehicle with thermoelectric generators (TEGs). Benjamin hopes to continue his research on TEGs in future years as well as continue to pursue his passion for mechanics and aviation. His advice to anyone who is thinking about doing a science fair project is to take the leap, as he believes it is a great way to learn about our world and about yourself.

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