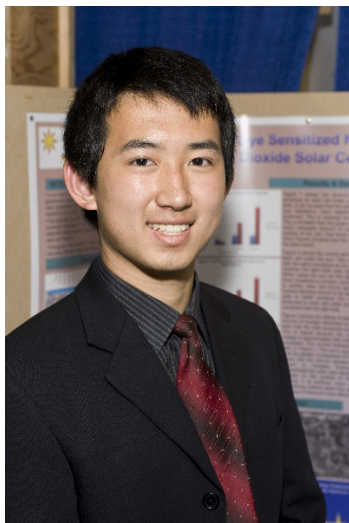


CWSF 2010 - Peterborough, Ontario



Paul Chen

Design and Study of Dye Sensitized Titanium Dioxide Solar Cells

Division: Health Sciences

Category: Senior

Region: Northwestern Ontario

City: Thunder Bay , ON

School: Sir Winston Churchill C.V.I.

Abstract: We are facing many environmental issues and energy conservation challenges and solar energy can be a solution. In this science project, I studied dye sensitized solar cells. I manufactured my own functioning cells with titanium dioxide nanoparticles using natural, organic dyes from fruit juices. These organic dyes play an important role in harvesting solar energy. Mirrors can also be added to improve light absorption.

Biography

I am currently in grade 11 in the International Baccalaureate Programme at Sir Winston Churchill, Thunder Bay. Besides keeping up with my school work and maintaining a high average, I also participate in a wide variety of school activities. I was a captain on the football team, received the coaches' award for soccer and participated in the badminton team. Along with sports, I am involved in math competitions, the skills Canada cardboard boat races and student council. In math competitions I have always been able to place with high rankings and I'm a major contributor to student council. In addition, I have finished my grade ten piano along with theory four. Throughout the year, I have been active in volunteering around the community as I currently teach Chinese at a local Chinese school and have been a volunteer instructor at a summer science program. I also volunteer for school events whenever possible. After high school, I intend on going to University to pursue a career in science and engineering. However, I have yet to plan exactly where I wish to go.

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