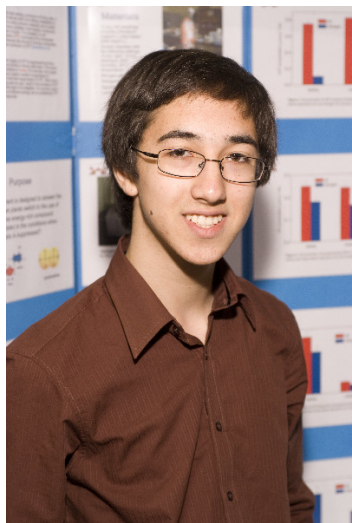


CWSF 2010 - Peterborough, Ontario



Timour Igamberdiev

Pyrophosphate - An Alternative Energy Source in Plants

Division: Life Sciences

Category: Senior

Region: Eastern Newfoundland

City: St. John's, NL

School: Holy Heart High School

Abstract: The project studied the question if plants switch to use the energy-rich compound pyrophosphate when ATP synthesis is suppressed (anoxia). Under nitrogen, in barley and maize, the ATP level dropped by 7-8 times, while pyrophosphate decreased only by 20-30%. The activity of the glycolytic ATP-dependent enzyme phosphofructokinase decreased, but pyrophosphate-dependent phosphofructokinase increased threefold. This indicates that pyrophosphate can be used as an alternative energy currency.

Biography

I was born in Voronezh, Russia in 1993. Ever since I was little, I had always moved around a lot; first to USA, then back to Russia, after to Sweden and Denmark, and finally ended up in Canada. Having lived in Winnipeg for seven years, I participated in the Science Fair in grades seven and eight, taking part in the Manitoba Schools Science Symposium and winning Best Biological Sciences Project - Junior Level. Back in grade eight, I also found I had a strong interest in musical composition. I began to compose music in the 18th century classical style, first with a small sonata, and then moved on to write some larger works, such as symphonies. As a hobby, I really enjoy music, particularly listening to Mozart and Bach, as well as playing various piano sonatas and fugues. For university, I am deciding currently between something to do with history, linguistics, or biology. It is a large range of possibilities, but since I also enjoy music so much, I will probably do it as a second degree so that I have some professional experience in it.

Awards

Value

The University of Western Ontario Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: University of Western Ontario	\$1 000
University of Ottawa Entrance Scholarship Senior Bronze Medallist - \$1000 Entrance Scholarship Sponsor: University of Ottawa	\$1 000
Bronze Medal - Life Sciences - Senior Sponsor: Pfizer Canada	\$300
Total	\$2 300