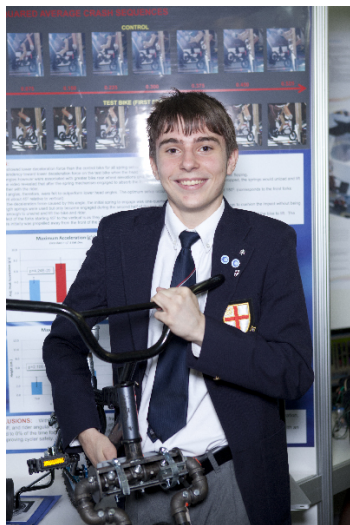


# CWSF 2013 - Lethbridge, Alberta



## Duncan Stothers

### The F.I.R.S.T. Frame (Front Impact Reduction SysTem) for Commuter Bicycles

**Challenge:** Innovation

**Category:** Intermediate

**Region:** Greater Vancouver

**City:** Vancouver, BC

**School:** St George's School

**Abstract:** Cycling is encouraged as form of commuter transportation that is environmentally friendly. Bicycle safety is a concern and front impact collisions are common for cyclists resulting in serious injury. In this experiment a new bicycle frame that redirects kinetic energy from crashes (Front Impact Reduction SysTem = F.I.R.S.T. frame) was designed, constructed and tested successfully reducing the effects of front-end collisions on the cyclist.

#### Biography

I have four brothers in my family (we are two sets of twins). My brother Ben and I are the older set of twins, aged 12, and we are both coming to the Canada Wide Science Fair. My musical interests include playing the piano and the flute. My interests include computers, robotics and making stop motion animation films. Two of my animation movies have won film festival prizes. I love to build robotic machines. Sports that I enjoy include rugby, basketball, swimming and downhill skiing. My favorite runs on the ski hill are the black runs with lots of moguls!

#### Awards

#### Value

Excellence Award - Intermediate - Gold Medal Sponsor: Youth Science Canada	\$700
Western University Scholarship Gold Medallist - \$4000 Entrance Scholarship Sponsor: Western University	\$4 000
<b>Total</b>	<b>\$4 700</b>