



## CWSF 2019 - Fredericton, New Brunswick



## Biography

I am a grade 11 student at Kelowna Secondary School, Central Okanagan. Soccer, camping and gaming are my hobbies. Scouting has been a major interest since I was 6; now a 3rd year Venturer and travelling to the World Jamboree this summer. I've always been intrigued by natural disasters and this is my 3rd time attending the Canada Wide Science Fair through engineering barrier patterns to protect against the elements. My inspiration since grade 6 is the mathematical Fibonacci Sequence (0-1-1-2-3...) to mitigate disasters such as tsunamis, wind gusts, flash floods, landslides and avalanches. This year's project is an expansion on last year's protection against landslides and avalanches. I used a 1:100 size scale while testing inside with dust-free rice (instead of outside with actual snow and dirt that was subject to weather conditions) to tighten up controls and utilized trees and pillars combined in the Fibonnaci Sequence pattern as an environmentally-friendly barrier system that can be implemented by anyone around the world using locally-available resources. I have confirmed that it is the pattern itself that is most important, not what it is comprised of. My advice to others is to passionately explore what interests you and keep challenging yourself.

## **Teryl Bates**

## A Fibonacci Solution ? Mitigating Landslides and Avalanches (v2)

Challenge:	Innovation
Category:	Senior
Region:	Central Okanagan
City:	Kelowna, BC
School:	Kelowna Senior Secondary
Abstract:	My project is about natural disaster protection against landslides and avalanches implementing the Fibonacci Sequence pattern so that people around the world can mitigate damage and loss of life with minimal cost. I propose a low environmental-impact mathematical barrier solution using locally-found resources such as trees, totem poles, pillars or combinations. The most important factor is the pattern itself, not what it is comprised of.

Awards	Value
Excellence Award - Senior - Silver Medal	
Sponsor: Youth Science Canada	
Dalhousie University Faculty of Science Entrance Scholarship	\$2 500
Senior Silver Medallist - \$2500 Entrance Scholarship	
Sponsor: Dalhousie University, Faculty of Science	
UBC Science (Vancouver) Entrance Award	\$2 000
Senior Silver Medallist - \$2000 Entrance Scholarship	
Sponsor: The University of British Columbia (Vancouver)	
University of New Brunswick Canada-Wide Science Fair Scholarship	\$2 500
Silver Medallist - \$2500 Entrance Scholarship	
Sponsor: University of New Brunswick	
University of Ottawa Entrance Scholarship	\$2 000
Senior Silver Medallist - \$2000 Entrance Scholarship	
Sponsor: University of Ottawa	
Western University Scholarship	\$2 000
Silver Medallist - \$2000 Entrance Scholarship	
Sponsor: Western University	
Total	\$11 000



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