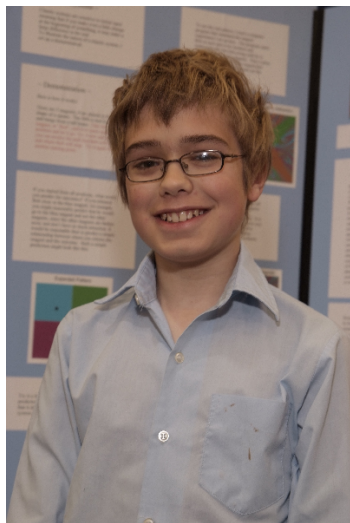


## CWSF 2007 - Truro, Nova Scotia



### Ian Longiaru

#### Chaos

**Division:** International / None

**Category:** Junior

**Region:** Cariboo Mainline

**City:** Kamloops, BC

**School:** Juniper Ridge Elementary

**Abstract:** I present a physical model of a chaotic system using four magnets distributed in a square that attract a magnetic pendulum. This model successfully shows the three basic properties of a chaotic system: sensitivity to initial conditions, non-proportionality and nonlinearity. Using computer simulation that mimics my model, I show that the underlying pattern (attractor) of this system is highly complex.

#### Biography

My name is Ian Longiaru. I am a 12 year old, Grade 7 student. I live in Kamloops, BC with my Mom, Dad and brother. We live in a house up on Juniper Ridge. My Mom is a pet veterinarian (she mainly works on cats and dogs) and my Dad is a flight instructor. My brother is in university and wants to be a rock star so he takes courses like philosophy to improve his song writing (oh brother). I have 4 cats (I am a crazy cat person), 7 fish and 2 small frogs. I like to spend my time playing video games, playing with Lego, drawing maps, and playing Runescape with my friends. I also enjoy making up jokes with my friends (they say I am a half-crazed joker) in my spare time. If I were to be asked what my "dream career" would be, I'd say I would like to be a pet store owner. I would have a store called "Ethical Pets" and I would sell, fish, mice, rabbits, gerbils, and cats and dogs from the SPCA.