PRINCE GEORGE — With Prince George seeking the Tim Horton's Brier, and Canada's successes in curling at the Olympic Games, the sport is top of mind for many these days. A UNBC Physics Professor has recently published a paper in the journal, Cold Regions Science and Technology. It sets out a scientific formula to describe just what happens when a curling rock is thrown.

Dr. Mark Hegelski worked with University of Alberta Earth and Atmospheric Sciences Professor Dr. Edward Lozowski to seek the answer to the question, 'why does the rock curl the way it does?'. They came up with a formula.

"We were able to explain the two most important and mysterious aspects of what curling rocks do in the game of curling," says Dr. Shegelski. "The most important one is that the rock rotates, say, twice, going down the ice or ten times, but for each of these cases, the curl distance is the same."

They took into account the radii of the rock and the running band on the bottom of the rock, the size and density of the pebbling on the ice, the hardness or elasticity of the ice itself and the speed with which the rock is thrown. They also looked at the impact of sweeping the rock. It all plays a role in why the rock curls the way it does.

"As the rock is sliding, we think that what happens is it just catches onto the ice and sticks for just a very small fraction of a second. By sticking like that, it has to pivot. So the directional motion of the rock changes. The ice breaks, it slides and changes direction a little bit more. And so, all the way down the ice until we see a nice, smooth curve."

Dr. Shegelski is a former curler and, despite the scientific breakthroughs, there is still a mystique to curling.

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