The World of Games on Different Surfaces

What: **Bi-State Colloquium**
When: **Friday, November 9, 4:45pm**
Where: **Loras College, Hennessy 250**
Who: **Taylor Dooley**

TIC-TAC-TOE is a game most people know from childhood. There are a set number of possible winning solutions but when we change the type of surface these playing boards are played on the outcomes change with it. Turning basic games like TIC-TAC-TOE into a mathematical structure allows us to analyze how these winning solutions occur and how they also change. We can use these mathematical structures to show what a winning solution is and looks like on for example a Torus TIC-TAC-TOE board compared to when it's played on a normal flat surface. Many games are actually identical in mathematical form, all it takes is us figuring out their form and how changes of playing boards affect them.

Taylor Dooley is a senior mathematics and finance major at Loras. This presentation is in partial fulfillment of the Loras College mathematics major.