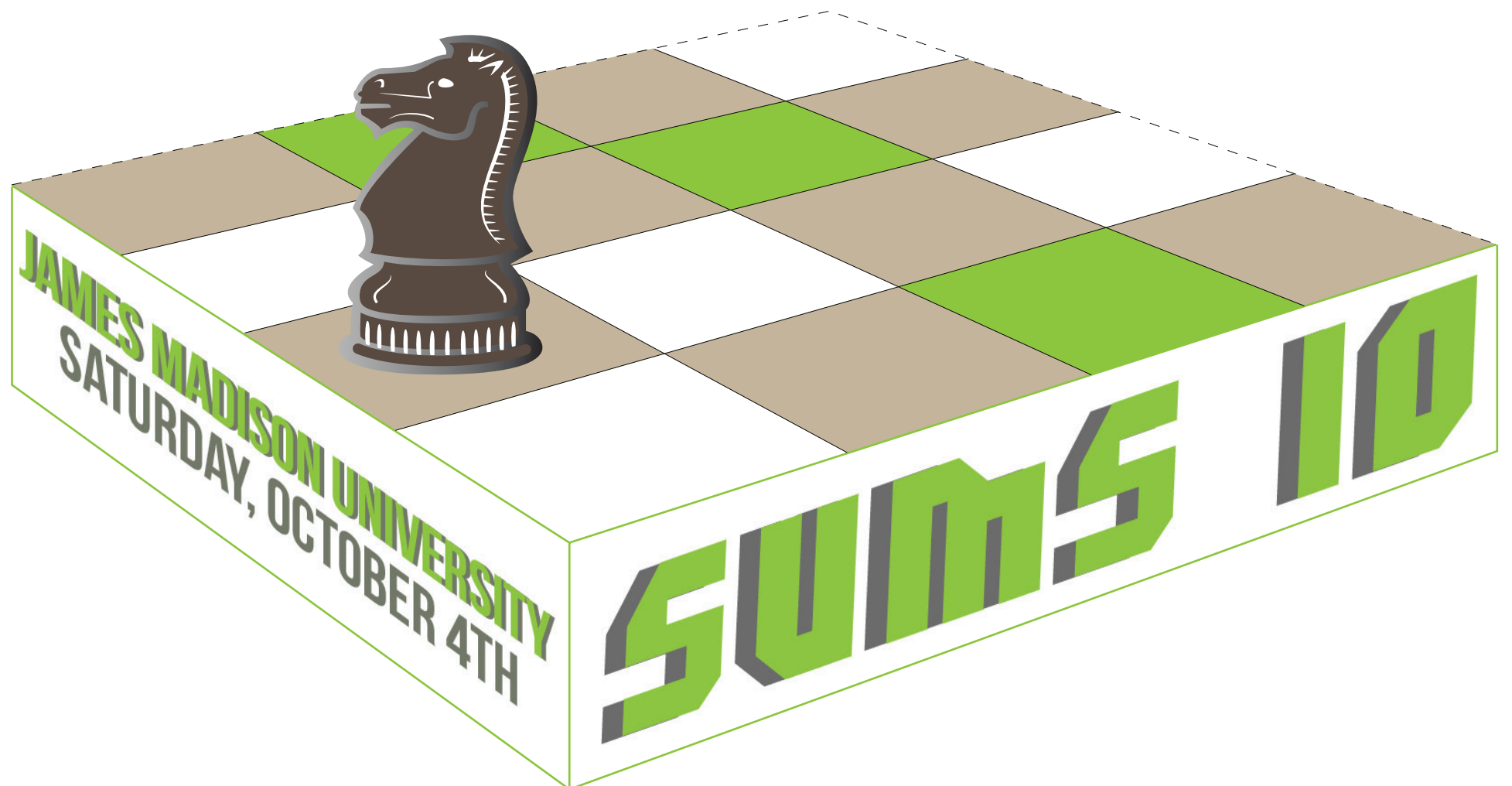


# SHENANDOAH UNDERGRADUATE MATHEMATICS AND STATISTICS PRESENTS:



JOIN US FOR THE TENTH ANNUAL SHENANDOAH  
UNDERGRADUATE MATHEMATICS AND STATISTICS ONE-DAY  
UNDERGRADUATE RESEARCH CONFERENCE IN  
HARRISONBURG, VIRGINIA.

## OPENING SPEAKER:

**GWYNETH  
WHIELDON**  
HOOD COLLEGE



## A COMBINATORIAL GAMING ZOO

Combinatorial games, sometimes called games of no chance or games of perfect information, are two player games in which players take turns making “moves” to change the initial position of the game. Unlike many games, here both players have perfect information about the positions and moves available in the game, and no chance is involved in a move. Games of this sort appear naturally in the “wilds” of mathematics, in areas ranging from graph theory to knots, tangles, groups and rings. In this talk we’ll explore some of this strange zoo of algebraic and combinatorial games, introducing you as explorers to exotic and fun mathematics along the way. Come ready to try your strategic abilities against your fellow mathematics students too!

## CLOSING SPEAKER:

**LAURA TAALMAN**  
MOMATH, THE NATIONAL  
MUSEUM OF MATHEMATICS



## MAKING MATHEMATICS REAL KNOT THEORY, EXPERIMENTAL MATHEMATICS, AND 3D PRINTING

For a pure mathematician, mathematics is a set of abstract constructs completely separated from reality, and using technology to explore mathematics can seem like, well, cheating. But with the rise of undergraduate research in mathematics comes a need for elementary unsolved problems that students can pursue. Modern technology can help fill this need and support exploratory, investigative mathematics, even for those of us that are old-school mathematical purists at heart. Going a step further, the recently accessible technology of 3D printing can take abstract mathematical objects and literally make them real.