Let $G$ be a finite group and $V$ a finite dimensional representation of $G$ over the complex numbers. According to a wonderful theorem of Frobenius and Schur from 1906, there are only three possibilities for $V$:

1. $V$ has a non-degenerate $G$-invariant symmetric bilinear form (the orthogonal case);
2. $V$ has a non-degenerate $G$-invariant skew-symmetric bilinear form (the symplectic case);

They give a formula, called the indicator, with possible values 1, -1, or 0, depending on the case. The work of Frobenius and Schur was extended to representations of finite dimensional Hopf algebras, starting about 20 years ago, and then to various tensor categories. It turns out to be very useful in representation theory since it is a category invariant of the category of representations.

We will survey some of these results and their applications.

**Wednesday, May 25th, 2022**

4:00 p.m.

in Skye 284