Graduate Seminar in Mathematics

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Thursday, March 10, 2016 1:00p.m., HH-3017

A friendly introduction to Representation Theory

Abstract:

Since the pioneering works of Ferdinand Georg Frobenius (1849 - 1917) and Issai Schur (1875 - 1941) on representations of groups, Representation Theory has become one of the central themes of modern algebra and, at the same time, one of its main connections with other branches of mathematics and with natural sciences. In particular, Hermann Weyl (1885 - 1955) promoted the use of (Lie) groups and their representations in quantum mechanics.

In this talk, examples of representations of algebraic structures (starting with groups) will be presented. We will also discuss some classical results and applications of Representation Theory.