**March 5:** Bertram Kostant (MIT), "On some of the mathematics in Garrett Lisi's  $E_8$  Theory of Everything'."

The physicist Garrett Lisi has released a highly controversial but fascinating paper, purporting to go beyond the standard model in that it unifies all four forces of nature by using as gauge group the exceptional Lie group  $E_8$ . My talk, strictly mathematical, will be about an elaboration of the mathematics of  $E_8$  which Lisi relies on to construct his theory.