

Name: Tadahiro Miyao

Title: Magnetic properties of ground states in many-electron systems

Abstract:

A mathematical understanding of the mechanism of metallic ferromagnetism still needs to be completed. In this talk, the following three fundamental theorems on metallic ferromagnetism will be first outlined: the Marshall-Lieb-Mattis theorem, the Lieb theorem, and the stability theorem of Lieb ferrimagnetism. Next, I will outline a mathematical framework within which these theorems can be unified. The theory is formulated using the standard forms of von Neumann algebras.