Speaker: George Androulakis (USC)

Title: The KMS Condition

Abstract:
Kubo in 1957 and Martin and Schwinger in 1959 observed that the evolution in the Heisenberg quantum model makes the so called Gibbs states tracial if one is willing to evolve time along the imaginary axis. This condition was named KMS condition by Haag, Hugenholtz and Winnink in 1967. It is a surprising fact, proved by Tomita and Takesaki, that the modular automorphism group of a σ-finite von Neumann algebra is the only strongly continuous automorphism on the von Neumann algebra that satisfies the KMS condition with respect to the faithful normal state of the von Neumann algebra.