

*Speaker* : Norihiko Minami

*Title* : Elementary number theoretical identities of Kurokawa-Ochiai and Deitmar-Koyama-Kurokawa

*Abstract* :

In his talk at JAMI 2009 on March 24, Kurokawa presented a rather mysterious looking elementary number theoretical identity, derived from an Euler product decomposition of some Igusa type absolute zeta function. Kurokawa added he is not aware of any elementary proof of this identity. It turned out that this identity was a tip of an iceberg. In fact, more general formulae were obtained by papers of Kurokawa-Ochiai (to appear in Journal of Number Theory) and Deitmar-Koyama-Kurokawa (Proc. Japan Acad. 84A (2008), No.8 (Sept.), 138 - 142).

In this talk, I shall formulate some generalization of these identities of Kurokawa-Ochiai and Deitmar-Koyama-Kurokawa through some elementary probability theoretical consideration, and give an elementary proof of these identities. I shall also compare this elementary proof with the original zeta-theoretical proof of Kurokawa-Ochiai and Deitmar-Koyama-Kurokawa, and if time permits, I may offer some speculation about Igusa type (absolute) zeta functions, inspired by this elementary probability theoretical consideration.