**Speaker: Claudia ALFES (Bielefeld University, Germany)**

**Title: Cycle integrals of meromorphic Hilbert modular forms**

**Abstract:** We establish a rationality result for linear combinations of traces of cycle integrals of certain meromorphic Hilbert modular forms. These are meromorphic counterparts to the Hilbert cusp forms $\omega_m(z_1,z_2)$, which Zagier investigated in the context of the Doi-Naganuma lift. We give an explicit formula for these cycle integrals, expressed in terms of the Fourier coefficients of harmonic Maass forms. Key elements of our proof are the construction of locally harmonic Hilbert-Maass forms, a new regularized theta lift related to the Doi-Naganuma lift, and the development of the xi-operator for Hilbert modular surfaces. This is joint work with Baptiste Depouilly, Paul Kiefer, and Markus Schwagenscheidt.