Talk: Non-commutative polynomial optimization - an overview

Speaker: Dr. Sabine Burgdorf– University of Konstanz

Abstract: This talk can be considered as a sequel of the lecture series Polynomial optimization and optimal control of the preceding learning week. We generalize the Lasserre hierarchy to optimization problems on polynomials in non-commuting variables. These problems occur naturally e.g. in optimal control, or in quantum physics. After a prolonged overview of the main results we focus on applications in quantum information theory to elucidate the consequences of the recent disproof of the Connes' embedding conjecture.