# Hidden symmetries in non-self-adjoint graphs

Amru Hussein
*TU Kaiserslautern*
hussein@mathematik.uni-kl.de

On finite metric graphs Laplace operators subject to general non-self-adjoint matching conditions imposed at graph vertices are considered. A regularity criterium related to the Cayley transform of boundary conditions is discussed and spectral properties of such regular operators are investigated, in particular similarity transforms to self-adjoint operators and generation of $C_0$-semigroups. Concrete examples are discussed exhibiting that non-self-adjoint boundary conditions can yield to unexpected spectral features.

The talk is based on joint works with David Krejčiřík (Czech Technical University in Prague), Petr Siegl (Queen's University Belfast) and Delio Mugnolo (FernUniversität Hagen).