- **Wolfram Bauer** （Ernst-Moritz-Arndt Universität Greifswald, Germany)
  - 　　（Spectral zeta function for certain classes of manifolds and its analytic continuation
  - 　　　　　21　10　6　　　　　15:45-16:30

[(DVI file)](#)

In this talk the spectral zeta function for intrinsic sub-Laplace operators is analyzed for certain types of manifolds including nilmanifolds and the 3-dimensional unit sphere $\mathbb{S}^3$. In all these examples the spectra can be calculated explicitly. In the case of nilmanifolds it is derived from the well-known heat kernel of the corresponding sub-Laplace operator on the nilpotent Lie group.
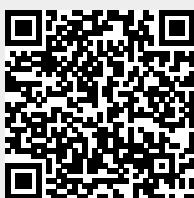
First, analytic methods will be explained which enable us to analyze the spectral zeta-functions, i.e. the location of poles, the residues and the derivative in zero. Then we extend our results to certain types of product manifolds. An interesting special case arises if one of the factors is the unit circle. In combination with our former results in the $\mathbb{S}^3$-case we can study a sub-Laplacian on $U(2)$, the group of 2×2-unitary matrices.

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3 images

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