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## Einladung

zum Vortrag im Rahmen des **SFB Colloquiums** (Standort Linz), mit dem Titel

# Randomized algorithms for $L^2$ -approximation

VORTRAGENDER: **David Krieg**, Friedrich-Schiller-Universität Jena

DATUM: Mittwoch, 17. Jänner 2018

ZEIT: 12:00 Uhr

ORT: Science Park 2, SP2 416-1, RICAM

**Abstract:** We discuss a randomized algorithm for the approximation in an arbitrary  $L^2$ -space that requests at most  $n$  function values of the target function. The target function is assumed to lie in the unit ball of a Hilbert space which is compactly embedded in  $L^2$ . In many examples, this algorithm is optimal up to a multiplicative constant which does neither depend on  $n$  nor on the dimension of the underlying domain. It is even optimal among all algorithms that ask for  $n$  pieces of arbitrary linear information. The talk is based on [1].

[1] K.: *Optimal Monte Carlo methods for  $L^2$ -approximation*. ArXiv e-prints, 2017.  
arXiv:1705.04567 [math.NA]

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