

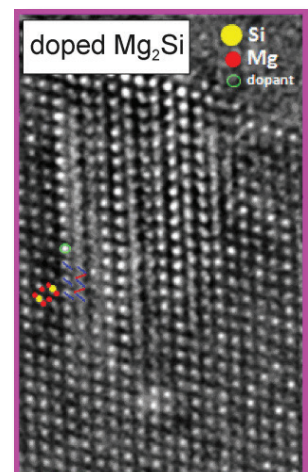
# Geowissenschaftliches Kolloquium

## *Thermoelectric Energy Generation with Sustainable Materials*

Donnerstag, 25. Juni 2015 - 16.15 Uhr

**Holger Kleinke**  
(University of Waterloo, Kanada)

Thermoelectric materials may contribute to more sustainable energy management by directly converting waste heat into useful electricity. My presentation is focused on the potential use of low cost and environmentally friendly materials in thermoelectric generators for waste heat recovery in automotives. The generators built to date contain toxic and/or expensive elements such as lead, tellurium, gallium, and antimony. In contrast,  $Mg_2Si$  and  $MnSi_{1.75}$  materials presented here constitute a drastic improvement in three areas: price, availability, and sustainability. I will discuss whether their properties are competitive.



**Prof. Dr. Holger Kleinke** studied Chemistry at the University of Münster, and received his Ph. D. from the University of Mainz. After a postdoctoral stint at the Ames Laboratory, US-Department of Energy, he returned to Germany to complete his Habilitation in Marburg. He currently works in the Department of Chemistry at the University of Waterloo, focussing on thermoelectric materials, structural chemistry and crystal structure prediction.

Layout: FUB Geopal Medienbüro, Jan Evers 20150616

**Institut für Geologische Wissenschaften**  
Großer Hörsaal (C.011), Haus C  
Malteserstrasse 74-100  
12249 Berlin



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