



# EINLADUNG zum IFP-SEMINAR

- Thema: **Functional renormalization group for fermions: Multiband effects and antiferromagnetism**
- Vortragender: **Stefan Maier**  
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- Host: Karsten Held
- Termin: **Mittwoch, 18 Dezember 2013, 10:30 Uhr**
- Ort: Institut für Festkörperphysik, TU Wien  
Wiedner Hauptstraße 8-10, 1040 Wien  
Seminarraum 138C, 9. OG (gelbe Leitfarbe)
- Förderer: ERC-StG-306447 AbinitioDGA

In this talk, I will report on fRG studies for fermions within the one-particle irreducible scheme. In a first part, an instability analysis of the three-band Emery model at weak coupling is performed in order to systematically discuss multiband effects. Despite considerable qualitative agreement with results for the one-band Hubbard model with effective parameters, multi-orbital effects are found to play an important role on a more quantitative level. The second part is devoted to fRG flows into phases of antiferromagnetic ordering within a purely fermionic framework. For the spin-density wave (SDW) phase of a simple two-pocket model, a SDW gap significantly reduced compared to mean-field theory is obtained and the violation of the SU(2) Ward identity seems acceptable on a qualitative level.

