

Seminarankündigung

## Deformationsquantisierung

**Am 14. 12. 2018 spricht um 14 Uhr c.t.**

Seminarraum SE 31

TOBIAS SCHMUDE (JMU WÜRZBURG)

### Idempotent Completion of Categories and Application to the Theorem of Serre-Swan

In many categories, idempotent endomorphisms split, i.e. can be written as the composition of a section with a corresponding retraction. For any category that does not allow this for all idempotents, we construct a universal embedding into a category that does so, called an idempotent completion. For any topological space  $X$ , we can realize the category  $\text{Vect}_X$  of vector bundles over  $X$  and the category  $\text{Proj}_{\mathcal{C}(M)}$  of projective modules over the continuous functions on  $X$  as idempotent completions of easier categories. This yields a conceptual proof of the theorem of Serre-Swan via the universal property of idempotent completions, showing that for many topological spaces  $X$  the section functor  $\Gamma$  is an equivalence of the above categories.

gez. Stefan Waldmann