



## TOPOLOGY SEMINAR WS 2021/22

### TOPOLOGICAL K-THEORY

**Time and Place:** We meet Thursdays 2-4pm c.t., INF 205, SR 4. The first meeting is on October 21, 2021, at which point talks will be distributed. If physical meetings are not possible due to the pandemic, we shall meet online. In that case, further information will be passed along; keep checking

[www.mathi.uni-heidelberg.de/~banagl/teaching.htm](http://www.mathi.uni-heidelberg.de/~banagl/teaching.htm)

**Registration:** Please register for the seminar on the MÜSLI-System.

**Info:** K-theory was originally introduced by Grothendieck in algebraic geometry. Its use in topology (and global analysis) was emphasized by Atiyah and Hirzebruch. Applications in various areas of mathematics exist, notably to index theory. Topological K-theory is a generalized cohomology theory whose elements are represented by vector bundles. The main result of the seminar will be Bott's periodicity theorem. The seminar language is English.

**Prerequisites:** *Analysis 1, 2* and *Linear Algebra 1, 2*. The seminar is suitable for students who take our *Algebraic Topology 1* concurrently.

**Literature:**

Atiyah, *K-Theory*, Advanced Book Classics, Addison-Wesley, 1989.