

C*-Algebras and why Topologists should care

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Starting with the very definition of a C*-algebra we will quickly answer the question, why the study of C*-algebras is sometimes called *non-commutative Topology*. Building on this we will discuss some examples how properties of a locally compact space X translate to the C*-algebra $C_0(X)$. One could now ask, whether functors like homotopy or (co)homology groups have non-commutative analogues. For K-theory this works extremely well, as we will see.

All of this will culminate in a description of the topological K-theory spectrum based on operator K-theory. If time permits we will also talk about group C*-algebras.