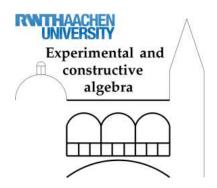# Experimentelle und konstruktive Algebra

Kolloquiumsvortrag

Freitag, 19. April 2013, 14:00 Uhr, Hörsaal III

Derek Smith (Lafayette College, USA): *The Integral Octonions*

The real numbers, the complex numbers, the quaternions, and the octonions comprise the four composition algebras. The first three are usually seen to be the well-behaved members of the family; the octonions are, to quote John Baez, "the crazy old uncle nobody lets out of the attic."

In this talk, I will let the octonions down from the attic and tell you why it should be invited to all family gatherings. In the first half, I will simply introduce some of its fundamental properties and describe its most important ring of integers, the integral Cayley numbers of Coxeter. In the second half, I will describe a beautiful and remarkably simple algorithm of Rehm that leads to a unique factorization theorem for this ring, despite its non-associativity. I will end the talk with several elementary questions about this and related rings that remain unanswered.

Wir laden alle Interessierten herzlich ein.

Ab 13:15 Uhr gibt es Kaffee und Tee in der Bibliothek des Lehrstuhl D für Mathematik.