Probabilistic Operator Algebra Seminar

Organizer: Dan-Virgil Voiculescu

April 25 **Mario Klisse**, TU Delft

Title: *On the isomorphism class of q-Gaussian C^*-algebras.*

In 1991 Bozejko and Speicher introduced a non-commutative version of Brownian motion by defining a family of algebras depending on a parameter $-1 \leq q \leq 1$ that are nowadays commonly known as the q-Gaussian algebras. These algebras interpolate between the extreme Bosonic case $q = 1$ and the Fermionic case $q = -1$. For $q = 0$ they coincide with Voiculescu's free Gaussians. The q-Gaussians can be studied on the level of von Neumann algebras. Whereas it is easily seen that in the *-algebraic setting the q-Gaussians all coincide, as soon as one passes to the operator algebraic level the question for the dependence on the parameter q becomes notoriously difficult. After introducing the necessary background on q-Gaussians, by considering the so-called Akemann-Ostrand property of the canonical inclusion we will discuss the dependence of the isomorphism class of q-Gaussian C^*-algebras on the parameter q. This partially answers a question by Nelson and Zeng. The talk is based on joint work with Matthijs Borst, Martijn Caspers and Mateusz Wasilewski.