## The Terwilliger algebra of the q-Johnson graph

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Q-polynomial distance-regular graphs are important research objects in algebraic combinatorics: Q-polynomial distance-regular graphs are not only interesting for their own sake but also important as underlying spaces for coding/design theory. Terwilliger introduced the subconstituent algebra, which is also called Terwilliger algebra (denoted by T), as a combinatorial analog of the centralizer algebra (denoted by T) as a combinatorial analog of the centralizer algebra (denoted by S) of the one-point stabilizer of the automorphism group. He posed the question of how many examples of Q-polynomial distance-regular graphs exist where T coincides with S. This talk will focus on two typical Q-polynomial distance-regular graphs, namely the Johnson graph and the q-Johnson graph, and will explore the relationship between the algebras T and S.

This is based on joint work with Tatsuro Ito, Yuta Watanabe and Ying-Ying Tan.