Speaker: **Gelca, Razvan**
Title: *On the quantization of the moduli space of flat SU(2)-connections on the torus*
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Abstract: Using the Reshetikhin-Turaev TQFT one can define a quantization of the moduli space of flat SU(2)-connections on the torus. In this particular situation the moduli space admits a covering by the complex plane, so one can perform equivariant Weyl quantization as well. Our main result shows that the two quantizations are unitarily equivalent. The unitary morphism between the Hilbert spaces maps the basis consisting of the core of the solid torus colored by irreducible representations of the quantum group to a basis of odd theta functions.

The proof relies on the computations of the matrices of operators in the two quantizations. One computation is done using cut and paste techniques from TQFT with corners, while the other involves Fourier analysis on the torus. This explains the product-to-sum formula discovered some time ago for the Kauffman bracket on the torus.