

Talk on September 23, 2024, 14:00 pm

Speaker: Prof. A. Lazarev, Lancaster University

**Title: Hochschild cohomology of the second kind
(joint with A. Guan and J. Holstein)**

Abstract:

Let A be a differential graded algebra. Its cohomological Hochschild complex $C(A, A)$ is a double complex, one differential being induced by the differential in A and the other one is the Hochschild differential. Any double complex admits two totalizations, one given by direct sums and the other – by direct products. The ordinary Hochschild complex is formed by taking the direct product totalization. The Hochschild complex obtained by the direct sum totalization was considered by Positselski and Polischchuk and they called it the Hochschild complex of the second kind. Their goal was to prove that the Hochschild cohomology of A of the second kind is isomorphic to the ordinary Hochschild cohomology (of the first kind) of the category of cofibrant perfect A -modules; they proved that this is true under certain technical assumptions on A .