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**Gurbir Dhillon\***, 10 Hillhouse Ave, DL 417, New Haven, CT 06511. *Singular Soergel bimodules and quantum Langlands duality for  $W$ -algebra representations*. Preliminary report.

The fundamental local equivalence is a partially conjectural analog of the Satake isomorphism for the quantum Langlands correspondence proposed by Gaitsgory and Lurie. Gaitsgory has further conjectured a compatibility of this equivalence with Feigin–Frenkel duality for affine  $W$ -algebras. Some important cases of the latter conjecture were established by Arakawa and Frenkel. Building on previous work of the author, joint in parts with Justin Campbell and Sam Raskin, which established the fundamental local equivalence non-factorizably, we will explain work in progress which similarly establishes Gaitsgory’s latter conjecture. A key tool is a relationship between singular Soergel bimodules and representations of affine  $W$ -algebras previously conjectured by the author. (Received August 24, 2020)