1163-46-765   **James Fletcher**, **Elizabeth Gillaspy*** (`elizabeth.gillaspy@mso.umt.edu`) and **Aidan Sims**.
Homotopy of product systems, and K-theory for k-graph algebras.

One can model the C^*-algebra of a higher-rank graph (k-graph) via a *product system*, which is a higher-dimensional version of a C^*-correspondence. Just as for the Cuntz–Pimsner algebra associated to a C^*-correspondence, there is a 6-term exact sequence for the K-theory of the Cuntz–Nica–Pimsner algebra of a product system. In this talk, I will explain the compatibility of this 6-term exact sequence with the new notion of a homotopy of product systems, and discuss the applications to higher-rank graphs. Our results imply that certain questions about the K-theory of k-graph C^*-algebras reduce to questions about the path-connectedness of certain spaces of matrices. (Received September 12, 2020)