1106-60-2594   **Jebessa B Mijena*** (`jebessa.mijena@gcsu.edu`), 231 W. Hancock St, Campus Box 17, Georgia College & State University, Milledgeville, GA 31061, and **Erkan Nane** (`nane@auburn.edu`), 221 Parker Hall, Department of Mathematics and Statistics, Auburn, AL 36849. *Correlation structure of time-changed Pearson diffusions.*

The stochastic solution to diffusion equations with polynomial coefficients is called a Pearson diffusion. If the time derivative is replaced by a distributed fractional derivative, the stochastic solution is called a fractional Pearson diffusion. This paper develops a formula for the covariance function of a fractional Pearson diffusion in steady state, in terms of generalized Mittag-Leffler functions. That formula shows that fractional Pearson diffusions are long-range dependent, with a correlation that falls off like a power law, whose exponent equals the smallest order of the distributed fractional derivative. (Received September 16, 2014)