1106-76-939 **Eleftherios Gkioulekas***, University of Texas-Pan American, Department of Mathematics, 1201 West University Drive, Edinburg, TX 78539-2999. *Revisiting the dissipation scales of the energy cascade of 3D turbulence as anomalous scaling functions.* Preliminary report.

The usual concept of an energy cascade that has a unique associated dissipation scale is an oversimplification. Aside from the fact that self-similar scaling for higher-order structure functions terminates at different dissipation scales, back in 1996, L'vov and Procaccia noted an additional anomaly; starting from an $n^{\text{th}}$-order generalized structure function, consisting of a product of velocity differences, each between two different points, when all velocity difference separations have length scale $R$ and one velocity difference separation is reduced to a smaller scale $r$, the crossover to dissipation range will occur at the scale $\ell_n(R)$ which is $R$-dependent. The fixed point $\lambda_n$ such that $\ell_n(\lambda_n) = \lambda_n$ gives the standard dissipation scale associated with the $n^{\text{th}}$-order standard structure functions. In my talk, I will make note of an additional anomaly. If, instead of reducing one velocity difference separation, we reduce $p$ velocity difference separations to scale $r$ , that defines a different dissipation scale function $\ell_{np}(R)$ and a different fixed-point $\lambda_{np}$. The new anomaly is that $\lambda_{np}$ is not independent of $p$, as a result of intermittency corrections. (Received September 08, 2014)