1077-26-957   **Udita Nalin Katugampola*** (`uditanalin@yahoo.com`), Department of Mathematical Sciences, Delaware State University, Dover, DE 19901. *Generalized Fractional Integrals, Derivatives and their Mellin's transforms.*

In this paper we present generalizations to two existing fractional integrals and derivatives, which generalize the Riemann-Liouville and Hadamard fractional operators into a single form. Conditions are given for such fractional operators to be bounded in an extended Lebesgue-measurable space. The existence and uniqueness results for single term generalized fractional Differential Equations (FDE) have also been established. We also obtain Mellin transforms of such generalized fractional operators which play an important role in solving fractional differential equations. We further investigate the hidden structure behind the generalized δ_k^n operators, which shows some connection to the Stirling numbers of the second kind and Lah numbers. (Received September 14, 2011)