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**George A. Anastassiou\*** ([ganastss@memphis.edu](mailto:ganastss@memphis.edu)), Department of Mathematical Sciences,  
University of Memphis, Memphis, TN 38152. *On the left fractional local general M-derivative.*

Here is introduced and studied the left fractional local general M- derivative of various orders. All basic properties of an ordinary deriva- tive are established here. We also define the corresponding left fractional M-integrals. Important theorems are established such as: the inversion theorem, the fundamental theorem of fractional calculus, the mean value theorem, the extended mean value theorem, the Taylor's formula with in- tegral remainder, the integration by parts. Our left fractional derivative generalizes the alternative fractional derivative and the local M-fractional derivative. (Received August 15, 2019)