1145-34-1025   **Paul Eloe*** (`peloe1@udayton.edu`) and **Jaganmohan Jonnalagaddda**. *Quasilinearization and Boundary Value Problems for Riemann-Liouville Fractional Differential Equations.*

The quasilinearization method is applied to a Dirichlet boundary value problem and to a right focal boundary value problem for a Riemann-Liouville fractional differential equation. First, the method of upper and lower solutions is employed to obtain the uniqueness of solutions of the Dirichlet boundary value problem. Next, a suitable fixed point theorem is applied to establish the existence of solutions. The quasilinearization algorithm is then developed and sequences of approximate solutions are constructed that converge monotonically and quadratically to the unique solution of the boundary value problem. Two examples are exhibited to illustrate the main result for the Dirichlet boundary value problem. (Received September 18, 2018)