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Carlos E. Arreche* (arreche@utdallas.edu), Department of Mathematical Sciences,
University of Texas at Dallas, Richardson, TX 75080. *Differential Galois theory for difference
equations and hypertranscendence.*

There is a differential Galois theory that associates to a given linear difference equation a geometric object, called the Galois group, that encodes the differential equations satisfied by the solutions. I will describe this Galois theory and some algorithms that have been used recently to prove that certain generating series arising in combinatorics are hypertranscendental. (Received July 13, 2017)