1116-S1-2713   **Itai Seggev*** (`is+research@cs.hmc.edu`), 2000 Trade Center, Champaign, IL 61820. *Using symbolic ODE solvers' full potential to bring out your students' full potential.*

In the past decade, symbolic ordinary differential equation solvers have moved beyond their traditional focus on solving classical equations in terms of special functions. Solvers for piecewise or "engineering function" driving terms, hybrid or event-driven equations, differential-algebraic equations, and even delay-differential equations are now available. These new solvers greatly expand the range of models for which symbolic solutions are possible, and which students can therefore explore from a varienty of perspectives. In this talk I will survey these topics and how you can explore them using *Mathematica*. (Received September 22, 2015)