

---

**HOSSEIN ZIVARI PIRAN**, University of Toronto, Toronto, Ontario

*Developing a User-Friendly Delay Differential Equations Modeling Package*

Ideally a delay differential equations (DDEs) modeling package should provide facilities for approximating the solution, performing a sensitivity analysis and estimating unknown parameters. We propose new techniques for efficient simulation, accurate sensitivity analysis and reliable parameter estimation of DDEs. Using these techniques, we have implemented a new software package DDEM. The package is programmed in C++ and intended to provide user-friendly calling sequences. The preliminary numerical results are very satisfying and show the effectiveness of the techniques.