# Application on the boundedness of nonlinear Volterra integral equations

## Essam Awwad,

*Department of Mathematics, Faculty of Information Technology,*
*University of Pannonia, Veszprém, Hungary*

**Abstract:** For linear and nonlinear Volterra integral equations with time delay, we obtain some results on the boundedness of the solutions. We also apply our results on Volterra integral equations to prove the BIBO (bounded input bounded output) stability of nonlinear control system with time delay.

This is a joint work with Prof. Győri István, and Prof. Hartung Ferenc, Department of Mathematics, Faculty of Information Technology, University of Pannonia, Veszprm, Hungary.

**Keywords:** Boundedness, Volterra integral equations, Bounded input bounded output (BIBO) stability, Differential equations with delays.