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RESEARCH INTERESTS:

- Random Polynomials
- Stability and Numerical Properties of Random Equations
- Hybrid Systems
- Fuzzy Differential Equations
- Neural Equations

CURRENT RESEARCH:

(i) To find the distributions and stability properties of random algebraic equations and random trigonometric polynomials; (ii) to find the stability properties of various equations (hybrid fuzzy differential equations, neural equations, fuzzy difference equations) by an application of comparison theorems and other analytical methods; (iii) to find error estimates of random equations (random differential equations, random difference equations) by an application of random comparison theorem and variation of constant method

SELECTED PUBLICATIONS:

- Abdelkrim Brania, Negash G. Medhin, and M. Sambandham, *Comparison Theorem for Hybrid Fuzzy Differential Equations*, to appear in Computational Intelligence and Applications.
- M. Sambandham, *Perturbing Lyapunov-like functions and hybrid fuzzy differential equations*, to appear in International Journal of Hybrid Systems.
- G. S. Ladde, N. G. Medhin, and M. Sambandham, *Error Estimates for Random Boundary Value Problems with Applications to Hanging Cable Problem*, submitted to Journal of Mathematical Physics.
- R. P. Agarwal, Donald O'Regan, and M. Sambandham, *Random fixed point theory for multivalued countability condensing random operators*, submitted to Stochastic Analysis and Applications.
- N. G. Medhin and M. Sambandham, *Active and Passive Damping in a Beam*, Proc. Dynamic Systems & Applications, 3 (2001) 419-426.

BOOKS:

- **Computational Methods and Neural Networks (Parallel, Systolic, and Neurocomputing)**, 2000, Dynamic Publishers, (Ed: M. Bekakas).
- **Proceedings of Dynamic Systems and Applications**, Volume 3, 2001, Dynamic Publishers, (Ed: G. S. Ladde and N. G. Medhin).