SIMA SARV AHRABI

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EDUCATION

Doctor of Philosophy in Mathematical models for engineering	Sapienza University of Rome, Department of Basic and Applied Sciences for Engineering	Rome, Italy	2015–2018
Master of Science in Engineering Mathematics	University Technology Malaysia, Department of Mathematics	Johor, Malaysia	2012–2014
Bachelor of Mathematics, in Pure Mathematics	Mohaghegh Ardabili University, Department of Mathematics	Ardabil, Iran	2000–2004
Diploma in Mathematics and Physics	Dino danesh High School	Tehran, Iran	1997–2000

DOCTORAL RESEARCH

"Fractional Model of Cancer Immunotherapy and its Optimal Control"

The main themes of my PhD thesis embrace: (i) the study and modelling of cancer-immune dynamics, described by using non-integer order differential operators (i.e. fractional derivative); (ii) providing the optimal cancer treatment strategies by using Pontryagin's minimum principle and metaheuristics; (iii) developing and analyzing (in a joint research work) a novel fractional logistic-based integro-differential equation, coupled with its exact closed solution.

AWARDS

PhD scholarship (2015–2018): Sapienza University of Rome, Department of Basic and Applied Sciences, Rome, Italy.

PUBLICATIONS

- Loreti P., **Sarv Ahrabi S.** , Vellucci P. (2018), Mathematical model for the output signal's energy of an ideal DAC in the presence of clock jitter, *Informatics in Control, Automation and Robotics*, *Springer* (Cham), 410–422.

- **Sarv Ahrabi S.**, Momenzadeh A. (2018), On Failed Methods of Fractional Differential Equations: The Case of Multi-step Generalized Differential Transform Method, *Mediterranean Journal of Mathematics* , *Springer* 149–154.

- D'Ovidio M., Loreti P., **Sarv Ahrabi S.** (2018), Modified fractional logistic equation, *Physica A: Statistical Mechanics and its Applications*, Elsevier 818–824.

- D'Ovidio M., Loreti P., Momenzadeh A., **Sarv Ahrabi S.** (2018), Determination of order in linear fractional differential equations, *Fractional Calculus and Applied Analysis*, 937–948.

- Javanmardi S., Shojafar M., Shariatmadari S., **Sarv Ahrabi S.** (2014), FRTRUST: a fuzzy reputation–based model for trust management in semantic p2p grids, *International Journal of Grid and Utility Computing*, 57–66.

- **Sarv Ahrabi S.**, Shojafar M., Kazemi Esfeh H., Abraham A., (2014), Mathematical modeling of blood flow through an Eccentric Catheterized Artery: A practical approach for a complex system, *Hybrid Intelligent Systems, 14th International Conference on Hybrid Intelligent Systems, IEEE*.

CERTIFICATES

- Verified Certificate of 'Machine Learning' , online course offered by Stanford University, 2019; License at https://www.coursera.org/verify/VJPNJ2TFPKL7

WORK EXPERIENCE

- Taught 'General Calculus' to high school students, at 'Golhaye Saadat Private Institute'; 2004–2011.

TECHNICAL SKILLS

- Programming languages and computing environments:
  - MATLAB, R, Mathematica;
- Software:
  - LaTeX, Microsoft Office;
- Languages:
  - English: intermediate in 'speaking', and 'writing';
  - Persian: native;
  - Italian: intermediate.
- Mathematics:
  - Dynamical systems;
  - Numerical analysis;
  - Fractional calculus;
  - Optimal control theory;
  - Evolutionary algorithms;
  - Machine learning.

Individual skills

- Organized personality: time managing, and carefully planning are as important to me as work;
- Energetically working : capable of devoting all my energies to work, being advantageous to me.