Publications Template

#	Research Title	Field	Abstract	Year of Publication Publishing	Publishing Link "URL"
1	A computational method for solving a class of non-linear singularly perturbed Volterra Integro-differential boundary-value problems		In this paper, a computational method is presented for solving a class of singularly perturbed Volterra integro-di§erential boundary-value problems with a boundary layer at one end. The implemented technique consists of solving two problems which are a reduced problem and a boundary layer correction problem. The Padeí approximation technique is used to satisfy the conditions at inÖnity. Theoretical	2013	http://www.scik.org/index.php/jmcs/article/viewFile/60/295

			and numerical results are presented.		
2	Qualitative Analysis of Delayed SIR Epidemic Model with a Saturated Incidence Rate		We consider a delayed SIR epidemic model in which the susceptibles are assumed to satisfy the logistic equation and the incidence term is of saturated form with the susceptible. We investigate the qualitative behaviour of the model and find the conditions that guarantee the asymptotic stability of corresponding steady states. We present the conditions in the time lag in which the DDE model is stable. Hopf bifurcation analysis is also addressed. Numerical	2013	https://doi.org/10.1155/2012/408637

			simulations are provided in order to illustrate the theoretical results and gain further insight into the behaviour of this system.		
3	SIR Model of Swine Influenza Epidemic in Abu Dhabi: Estimation of Vaccination Requirement		Mathematical models could be used to analyse dynamics of epidemic infections and create better insights into the measures that could prevent future epidemics. In this paper, we developed a basic SIR model which was fit to data from recent influenza A (H1N1) epidemic in Abu Dhabi. We estimated values for the threshold reproductive number R0 which prevent outbreak of swine influence	2013	

			infection. Results suggest that vaccination of 59% of population could achieve 'herd immunity' and prevent spread of the disease. The results could guide future public health measures in the Emirate of Abu Dhabi.		
https://www.researchgate.net/profile/Srdjan-Denic/publication/342169575_SIR_Model_of_Swine_Influenza_Epidemic_in_Abu_Dhabi_Estimation_of_Vaccination_Requirement/links/5ee6f64aa6fdcc73be7bb19a/SIR-Model-of-Swine-Influenza-Epidemic-in-Abu-Dhabi-Estimation-of-Vaccination-Requirement.pdf					
4	Delayed SIR Model with saturated incidence rate. NUMDIFF-14			2015	
5	An Efficient Numerical Algorithm for Solving Fractional Higher-Order Nonlinear Integrodifferential Equations		This paper is devoted to both theoretical and numerical study of boundary value problems for higher-order nonlinear fractional integrodifferential equations. Existence and uniqueness	2015	https://doi.org/10.1155/2015/616438

			results for the considered problem are provided and proved. The numerical method of solution for the problem is based on a conjugate collocation and spline approach combined with shooting method. Some numerical examples are discussed to demonstrate the efficiency and the accuracy of the proposed algorithm.		
6	Data Assimilation of Doppler Radar Winds for Numerical Weather Prediction				
7	Dynamics of coronavirus infection in human		Middle East Respiratory Syndrome Coronavirus (MERS-CorV), was discovered in humans with lower respiratory tract	2018	https://doi.org/10.1063/1.5045415

			infection, causes a range of illnesses in humans, from the common cold to the Severe Acute Respiratory Syndrome (SARS). Scientists give much attention to study the CorV infection among groups and travelers. In this paper, we utilize a mathematical model governed by a system of differential equations, which incorporate target cell limitation and the innate interferon response, investigate the innate and adaptive immune responses to primary CorV infection in an individual. We also investigate the sensitivity analysis		

			of the model to determine the most sensitive parameters and informative subintervals. This study may promote clearance of virus and host recovery from infection.		