Roxana Lopez Cruz
General studies program
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Research interests

Recognized in Latin America as an expert in the areas of mathematics (biomathematics, functional analysis and differential equations with delay). She is in charge of young thesis students and researchers in Mathematics, Scientific Computing and Biology. Works with alumni and collaborators around the world. Her research topics are mathematical models in Epidemiology and Ecology.

Qualifications

PhD, STRUCTURED SI EPIDEMIC MODELS WITH APPLICATIONS TO HIV EPIDEMIC, Arizona State University
4 Aug 2001 → 30 Jan 2006
Award Date: 7 Feb 2006

Bachelor, Estimaciones Globales para una Ecuación de Sobolev , Universidad Nacional Mayor de San Marcos
1 Apr 1978 → 1 Dec 1984
Award Date: 4 Apr 1994

Master, Super convergencia del gradiente de soluciones en elementos finitos isoparamétricos, Universidad Nacional Mayor de San Marcos
1 Apr 1989 → 15 Dec 1990
Award Date: 10 May 1993

Employment

General studies program
Lima University
11 Sep 2018 → present

Full Professor
Universidad Nacional Mayor de San Marcos
Peru
1 Apr 1985 → present

Research outputs

Global stability of an SAIRD epidemiological model with negative feedback
López-Cruz, R., Dec 2022, In: Advances in Continuous and Discrete Models. 2022, 13 p., 41.

Mathematical analysis of a symptom-structured epidemic model
Lopez Cruz, R., 30 Nov 2021, In: Selecciones Matemáticas.

Stability of a mathematical model of HIV/AIDS considering treatment and the impact of media coverage
Lopez Cruz, R., 30 Nov 2021, In: Selecciones Matemáticas.

Un modelo matemático-epidemiológico del control de la obesidad
López-Cruz, R., 29 Mar 2020, (Submitted) In: Selecciones Matemáticas. 7, 1

A mathematical model for mosquito infestation
Lopez Cruz, R., 30 Jun 2019, In: Selecciones Matemáticas. 6, 1, p. 14 - 18 5 p., 2.

Solución Uniformemente Acotada y Estabilidad Asintótica del Punto Libre de Infección de un Modelo Matemático SI con Dinámica Vital (crecimiento logístico) mediante las Ecuaciones Diferenciales con Retardo
Lopez Cruz, R., 30 Jun 2019, In: Selecciones Matemáticas. 6, 1, p. 66 - 76 11 p., 9.

Modelamiento computacional de la dinámica de transmisón sexual del VIH-SIDA mediante autómatas celulares (Cell-DEVS)
Lopez Cruz, R., 30 Jun 2018, In: Selecciones Matemáticas. 5, 1, p. 39 -47 9 p., 6.

Modelamiento Computacional de la Dinamica de Transmisión de la Varicela mediante Automatas Celulares (Cell-DEVS)
Lopez Cruz, R., 15 May 2018, In: Pesquimat. 20, 2, p. 53 -64 12 p., 5.

Stability Theorems for a Mathematical Model SI with Vital Dynamics Structured by Sex for the Infection Free Steady developed by the Ordinary Differential Equations and the Delay Differential Equations respectively
Lopez Cruz, R., 30 Nov 2017, In: Selecciones Matemáticas. 4, 2, p. 202 -210 9 p., 7.

Mathematical analysis of a food chain: prey - predator - biological control
Lopez Cruz, R., 30 Jun 2017, In: Selecciones Matemáticas. 4, 1, p. 112 - 123 12 p., 10.

Estudio del Punto Libre de Infección de un Modelo Matemático de la Dinámica de Transmisión del VIH/SIDA en una Población Heterosexual Activa en el Perú con Aplicación a la Salud Pública
Lopez Cruz, R., 18 Nov 2016, In: Pesquimat. 19, 2, p. 26 - 37 12 p., 3.

Regulatory Process of T-cells in the Thymus
Lopez Cruz, R., 1 Jan 2016, In: Pesquimat. 10, 2, p. 81 - 96 16 p., 6.

Nociones Básicas de Modelamiento Matemático aplicado a la Epidemiología
López-Cruz, R., Anzardo Vidal, M. & Valdez Huarcaya, W., 25 Nov 2015, MINSA. 80 p.

Formulation of an Age Structured Population Model and its Reduction to a Model With Delay
Lopez Cruz, R., 1 Jan 2014, In: Pesquimat. 10, 1, p. 1 -10 10 p., 1.

A simple SI model with two age groups and its application to us HIV epidemics: To treat or not to treat?
López, R., Kuang, Y. & Tridane, A., 1 Jun 2007, In: Journal of Biological Systems. 15, 2, p. 169-184 16 p.

Projects

Analysis of an epidemic model considering the effects of negative feedback
Lopez Cruz, R. (PI)
1/04/20 → 31/03/21

Obesity as an epidemic: predictions from mathematical models
Lopez Cruz, R. (PI)
1/04/19 → 31/03/20