

Research Topic	Mathematical Modeling & Simulation	Equations of water flow and pollutant transport	Optimum Control and Optimization	Magnetohydrodynamic Fluid Flows	BioMathematics	Navigation, Guidelines And Control Ship / Unmanned aircraft	Numerical Method	Computational Fluid Dynamics
2025					Mathematical modeling, persistence analysis, traveling waves, bifurcation, attractiveness in COVID 19 before, during New Normal and after	Mathematical Model Of Ship When Shooting (2017-2025)		
2023 2022			Control UV movement with active ballasts using sliding mode control	Applied research to develop a prototype ship without a propeller (propeller) (2023-2025)	Mathematical modeling, analysis and dynamic control of the global spread of the Ebola virus in Congo			
2021 2020	Option problem		Construction of kinematic and empirical models of active ballasts in autonomous underwater vehicle (AUV) motion	Basic research on the flow of magnetohydrodynamic fluids through the blunt body (2021, 2022)	Multi-path multilocation mathematical modeling in Multi strains	Kalman Filter Extended Kalman Filter Ensamble Kalman Filter Unscented Kalman Filter (2012-2020)	Study of Different Numerical Schemes to Solve Parabolic Type Partial Differential Equations in Heat Conduction Problems (2020)	External Flow, Internal flow, and Computational Theory
2019 2018	Mathematical modeling of blood flow in blood vessels		Model analysis and optimization of microalgae growth as an alternative energy source in an effort to overcome the energy crisis		Analysis of optimal control in the construction of a mathematical model of the spread of the Ebola virus			
2017 2016			Improved sliding mode control using Firefly to optimize the fuzzy membership function with the implementation of solar panels		Analysis of optimal control in the construction of the H1N1-Pandemic, and H5N1 models			Passive Control (2012-2018)
2015 2014	Math. modeling of peat stabilization (2013-2015)			Convection Flow of Viscous-Elastic Fluid at Boundary layer (2014)				
2010	Catamaran ship design (2009-2011)	Hydrodynamics of pollutant distribution (2013-2014)	Improved sliding mode control using Fuzzy with the implementation of the pendulum inverter					