



RESEARCH ROADMAP  
LABORATORY OF MATHEMATICS FOR INDUSTRY AND FINANCE  
DEPARTMENT OF MATHEMATICS – FSAD - ITS



	2010	2015	2020	2025
Financial Derivative Contract Price Modeling	Derivative Contract Price Modeling and Evaluation ( <b>Option, Stock Loans, Weather Derivatives, Modal Structure, Deposit Insurance, Earthquake Insurance, Syariah Finance</b> ) by : <b>Analytic</b> (Fourier Transform, Laplace Transform, Mellin Transform), <b>Semi-Analytic</b> (Homotopy Perturbation Method, Laplace Transform), and <b>Numeric</b> (Finite Difference, Finite Volume, Binomial).			
Applied Optimization	Theoretical Study of Operation Research and Optimization on Multi-Echelon Inventory and Distribution	Application to Resource Distribution with Spatial Effect Evaluation	Optimization of Multi-Inventory and Multi-Echelon Distribution; Optimization of Forest Management Problems	
Spatial Temporal Modeling for Data Count	Theoretical Studies on Temporal Spatial Data		Application in the Transportation System on the Toll Road and its Validation	
Time Series and Applied Statistics in the Field of Economics, Industry, and Finance	Time Series Applications on Energy Supply Availability and some Economics Issues	Forecasting using GARCH family and ARIMA with Kalman Filter Family Refinement for Financial, Economic, and Industrial Problems		
Bayesian Network and Latent Semantic Analysis	Inventory System using Customer Service	Implementation of LSA and Bayesian Method on Document Text Recognition, Single Document, and Multi Document		Development of LSA and Bayesian Method in Multi-Document Text recognition