Statement of Problem: Handling heavy loads at high speed performance with accuracy is a challenge. A high accuracy-positioning system is designed and facilitated with a position LASER sensor to acquire the desired accuracy. This project focuses on studying the dynamic behavior of electrohydraulic servo control systems under different operating conditions. In addition to different working temperatures, different loads will be handled using the electrohydraulic positioning system. The trapped oil volume will be considered in the experiments as a design factor. The change in dynamics is observed by a set of pressure and flow sensors. Building the dynamic model of the positioning system is an essential step towards the design of the appropriate control system. This model will be a parametric type using both the physical process information and the collected data.

Current Activities: New color classification software for biological plant, tree, and wood products has been developed for personal computers. The software will allow a greater access to color classification tools for classroom laboratories and rapid applied development. Specific information can be displayed on a mobile vehicle.

A study is being conducted to develop an image analysis algorithm and a prototype machine vision system that can automatically locate on the surface of some plants by using a digital camera and give information such as size, potential value and type of this plant. The algorithm developed is feasible for real-time identification in an industrial environment.