

Geo-Spatial Technology (GST) includes Remote Sensing (RS), Geographic Information System (GIS), and Global Positioning System (GPS). By combining GST with Forest Modeling (FM) and Forestry Decision Support systems (DSS), One can accurately acquire, objectively analyze, spatially integrate, and effectively apply digital information to support sustainable management of natural resources and realize the purposes of natural conservation.

Dr. Shao is concerned about the accuracy, efficiency, and usefulness of geo-spatial technology. For example, Dr. Shao studies (1) optimal techniques for classifying land use and land cover types in terms of high accuracy, low costs, and reasonable repeatability; (2) error propagations of image data classification in terms of landscape characterization and spatial modeling, and (3) corrections of land use and land cover data based on randomly selected reference data for change detection.

Forestry Decision Support Systems is to translate state-of-the-art geospatial and modeling techniques into operational interfaces as tools for forest ecosystem management. Major topics include (1) two-step multi-purpose decision support systems for managing forest resources in northeast China and (2) a web-based forest vegetation simulator for forest landowners in north-central Indiana

(http://rock.fnr.purdue.edu:9080/apps/forestry/4STool/v1_11/index.jsp).