

This lecture will introduce a general framework about the discrete inverse problem. It will emphasize the relevance of information and measurements (real world data) for the definition of the calibration target and of the objective function, in particular with reference to the Bayesian approach. Identifiability of model parameters, posedness (uniqueness and stability) and conditioning of the inverse problems will be formally defined. The proposed framework is so general as to permit rigorous definitions and treatment of sensitivity analysis, adjoint-state approach, multi-objective optimization, etc.