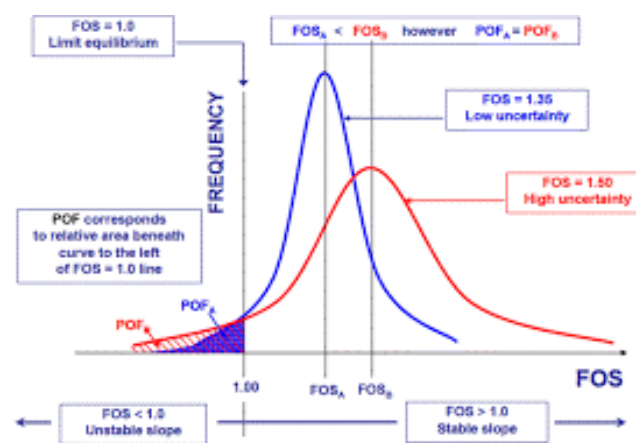


From 6 to 15 June 2023

Prof. Jianye CHING, Visiting Professor from National Taiwan University
“UdA” in Pescara University Building (Aula Consiglio del Dipartimento INGEO)
will give the 16 h COURSE:

BAYESIAN MACHINE LEARNING IN GEOTECHNICAL ENGINEERING



Day	Time	Topic
June 6 (Tue)	10a.m.-13p.m.	Basics of Bayesian modelling and analyses Notions of probability: frequentist versus Bayesian Recap of probability – probability distribution, cumulative distribution, expectation, independence, Monte Carlo simulation, etc. Bayes’ rule, prior, and posterior
June 7 (Wed) June 8 (Thu)	10a.m.-13p.m. 10a.m.-13p.m.	Solutions for Bayesian problems Exact solution with conjugate prior Importance sampling Rejection sampling Markov Chain Monte Carlo methods (Metropolis-Hastings, Gibbs sampler, Hamiltonian Monte Carlo & Transitional Markov Chain Monte Carlo)
June 13 (Tue) June 14 (Wed)	10a.m.-13p.m. 10a.m.-13p.m.	Geotechnical data and their Bayesian models Soil properties & transformation models Liquefaction data & potential models Site-specific data & hierarchical models CPT data & spatial variability models
June 15 (Thu)	10a.m.-10a.m.	Real case studies

The goal is to equip graduate students with the following knowledge: (1) ability to model geotechnical problems with probability and (2) ability to conduct Bayesian analysis.

Whoever is interested in this Course is requested to send an e-mail message to:

Prof. Giovanna Vessia: giovanna.vessia@unich.it