The quantification of the shape preferred orientation (SPO) of minerals by digital image analysis is a useful tool of structural geology. This is particularly the case of magma flow studies characterized by weak anisotropy quite difficult to measure by eyes. But this can be used also in sedimentology and fault studies. The SPO use the basic principle of stereology linking a count in n-1 dimension to a measurement in n dimensions. It starts at a pixel size n0 to explore a material along lines n1 forming a surface area n2 stacked in a volume n3. It can work on classified images or even more quickly on grey levels images (with some limitations).

The present course is dedicated to geologist and any other people interested in the measurement of material anisotropy formed by a population of objects with easy-to-use methods. The aim is to give all simplest basic concepts necessary to extract meaningful results from image analysis.

A set of applications illustrate the course and a set of free programs and open spreadsheet are provided to facilitate the assimilation of the technique.

Pr. Patrick Launeau
patrick.launeau@univ-nantes.fr

UNIVERSITÉ DE NANTES
FACULTÉ DES SCIENCES ET TECHNIQUES