Detecting natural snow avalanche occurrence from terrestrial photography

Domain: Alpine catchments hydrology
Advisor: Prof. Paolo Perona
Supervisors: Dr. Benoît Crouzy

Character of the work (Basic Research, Applied Research, Engineering): AR
Type of work (Experimental, Numerical, Theoretical): E, N
No of students: 1
Requested Courses:
Requested skills: Basic knowledge in statistics, probability. Knowledge in snow physics and computer programming is useful.

Description:

We propose to obtain from automatic cameras a statistics of avalanche events and compare them with the prevision of a stochastic model we developed.

The proposed work includes the setup of the cameras (central part of Valais, region of Montana) and of other measuring devices, the analysis of the obtained images and the derivation of the statistics. For the field part skiing skills are helpful. Depending on the interest of the student, the work can eventually include taking part in the development of the model.