

Permanent laser scanning: *point cloud time series of the beach*

Surface dynamics extraction: *4D objects-by-change* (section 3.1)

Surface dynamics characterization: *post-processing and feature extraction* (section 3.2)

Surface dynamics grouping: *Self-organizing Map (SOM) and hierarchical clustering* (Section 3.3)

Surface dynamics understanding: *linking groups to conditions* (Section 3.4)

Knowledge on conditional, sequential and periodic patterns of surface dynamics

