PhD topic #8: **Big data graph oriented analytics for sequence alignment**

The main objective of this research topic is to investigate the use of graph algorithms for Big Data sequence alignment. Sequence alignment consists of comparing two or more sequences by searching for a series of individual characters or character patterns that are in the same order in the sequences. Sequence alignment has numerous applications, but its role is especially central in evolutionary analyses of molecular sequences. New algorithms based on graph methods are to be developed within the context of huge amounts of sequences using Big Data technologies like Hadoop, Spark or Flink. The use of existing benchmarks will facilitate the tests of the algorithms.

- The doctoral candidate will be supervised by Dr Larbi Alaoui.
- Applicants must have a Master (or equivalent) in computer science or equivalent field.
- Good skills in C++/Java programming and a good command of English are required. Prior research experience is viewed positively but is not necessary.
- Applications should be emailed to ticlab-admin@uir.ac.ma and doctorat@uir.ac.ma