LIRIS lab, TWEAK team
liris.cnrs.fr/tweak
The activity of the TWEAK team relates to the fields of AI and Knowledge Engineering, exploring more specifically two dimensions: TELS and the Web. We are particularly interested in the co-evolution of user-machine systems in computer-supported environment, with a knowledge-oriented stance.

Expertise in the field of TEL
- Models and tools to
  - Build profiles of learners from their traces
  - Generate activities according to pedagogical needs of each teacher
  - Adapt content of TEL for each learner
  - Acquire teachers’ knowledge

Keywords: interaction traces, traces models, traces visualization, indicators, teachers, analysts

**kTBS**: a kernel for Trace-Based Systems
The TWEAK team defines *Trace-Based Systems* as systems that tap the knowledge available in users' interaction traces.

* kTBS is an open reference implementation of TBS based on RDF.
  - A trace is a set of obsels (observed elements).
  - An obsel has:
    - a type
    - 2 timestamps (begin and end)
    - attributes, and relations to other obsels
  - A trace is linked to a *trace model* that describes:
    - the obsel types that the trace can contain
    - their attributes and their relations
  - A trace can be computed by a *transformation method* in order to create other traces.

**kTBS4LA**: kTBS for Learning Analytics

Objectives:
- enable an analyst to use kTBS in order to interpret learning traces.

Scenario: an analyst wants to understand how learners use a TEL system $T$ and to compute indicators about learners activities or skills.

Using kTBS4LA, he/she can:
- import traces to the platform and define a trace model for $T$
- visualize the traces, each type of obsel being represented differently
- compute new traces (e.g., filter)
- define requests to compute indicators
