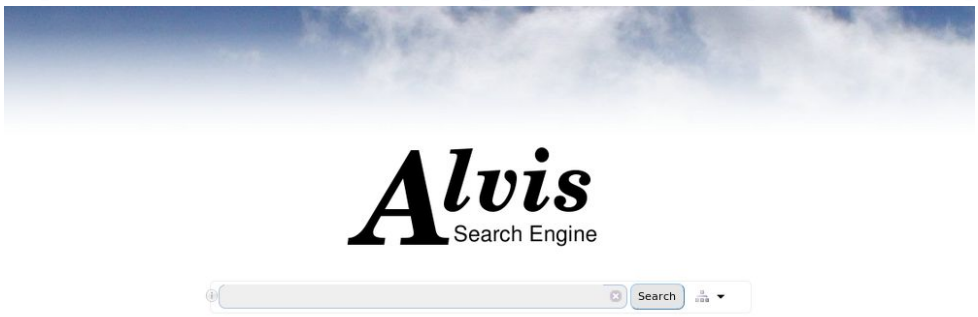
Tutorial : Using Alvis Search Engine

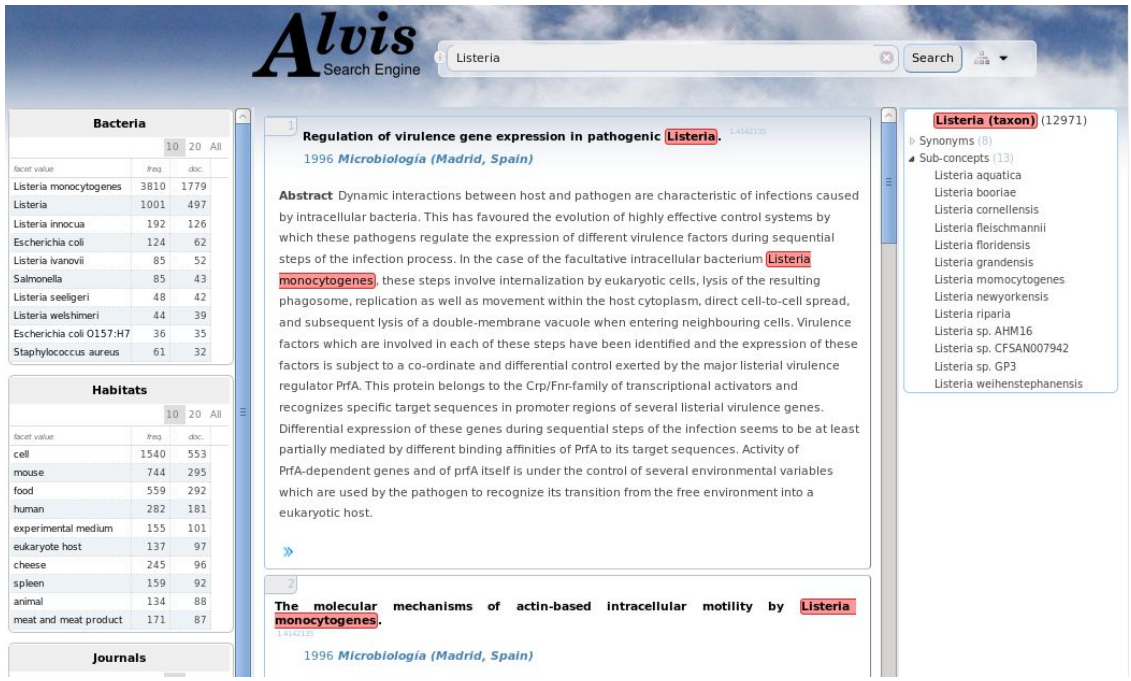
Website:
http://bibliome.jouy.inra.fr/demo/pubmed-ontobiotope/alvisir/webapi/search



1. The Alvis Search Engine searches terms in PubMed abstracts about bacterial biotopes. At the moment bacteria and habitats are labeled by the Alvis software. Bacterial phenotypes will also be included in the near future.

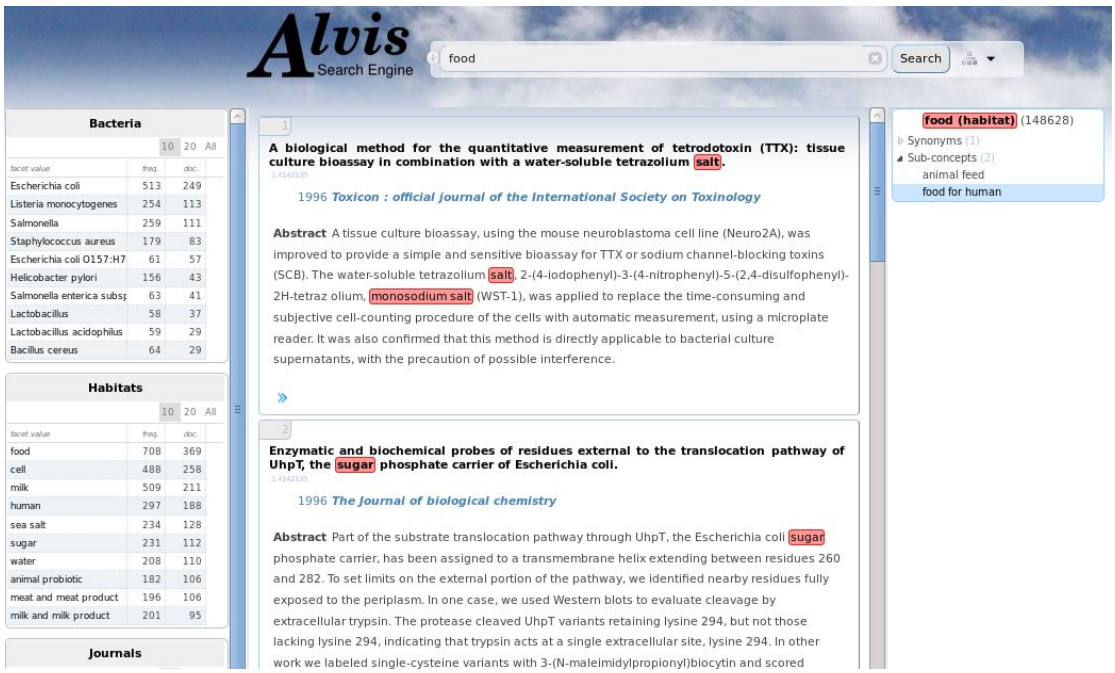
2. It is different from Google search engine because it is a semantic search engine (the query interpretation can be consulted in the frame on the right)
    a. If the query matches a term identified as a **Bacteria**, then it will be interpreted as such and the query will be extended to the children of the recognized concept

e.g. : *Listeria* => it is a taxon, the engine will retrieve documents about ***Listeria*** but also about its associated subspecies (*i.e. Listeria monocytogenes* , *Listeria aquatica*…)



b. If the query matches a term identified as a *Habitat* then the engine will also query the children of the identified concept in the ontology

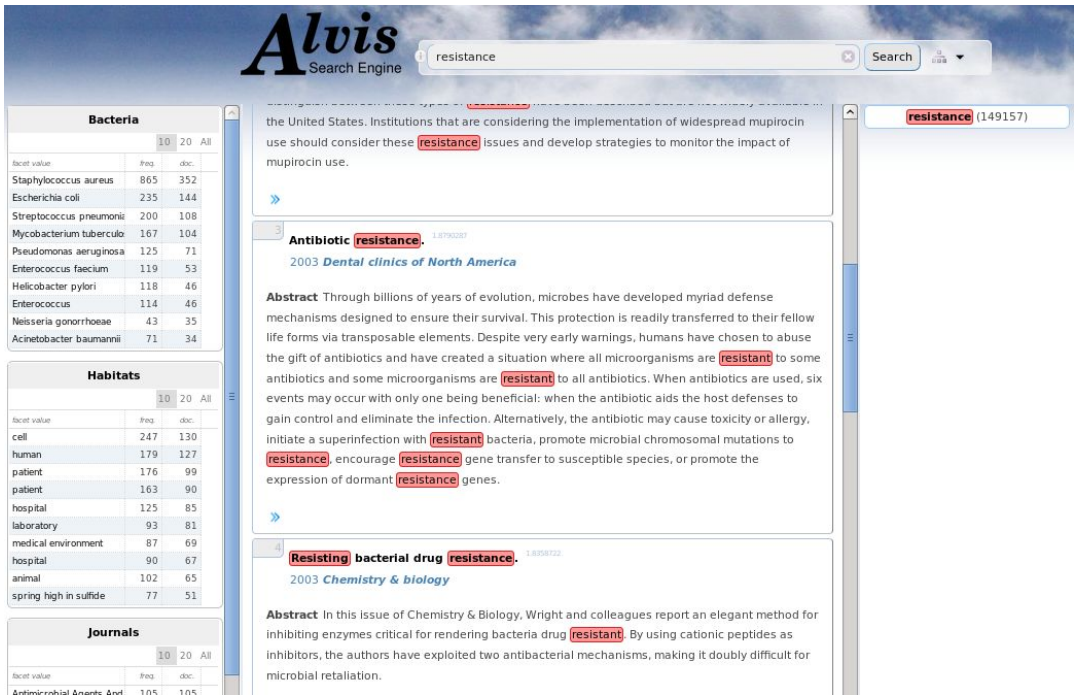
e.g.: the *food* query will look for the main concept "*food*", as well as for the sub-concepts "*animal feed*" and "*food for human*" and all their sub-concepts.



c. If the term does not match with a **Bacteria** or **Habitat** concept, the search engine performs a "standard" search

e.g. : *resistance*

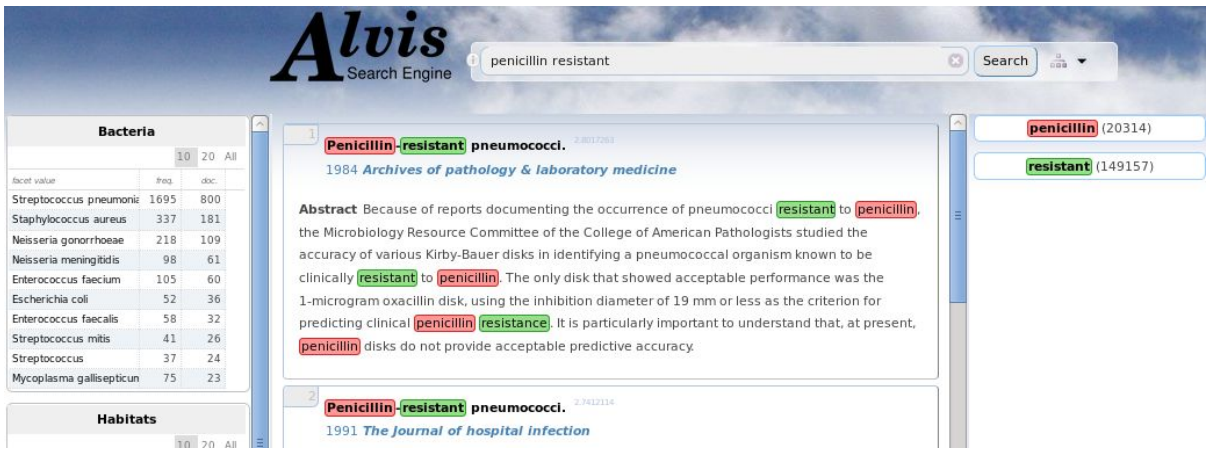
Note that the "standard" search uses text-mining tools by looking for word variations: it is not a search by "exact match" or keywords, but a search based on the stem of the query words, *i.e.* for resistance, resistant, resisting…



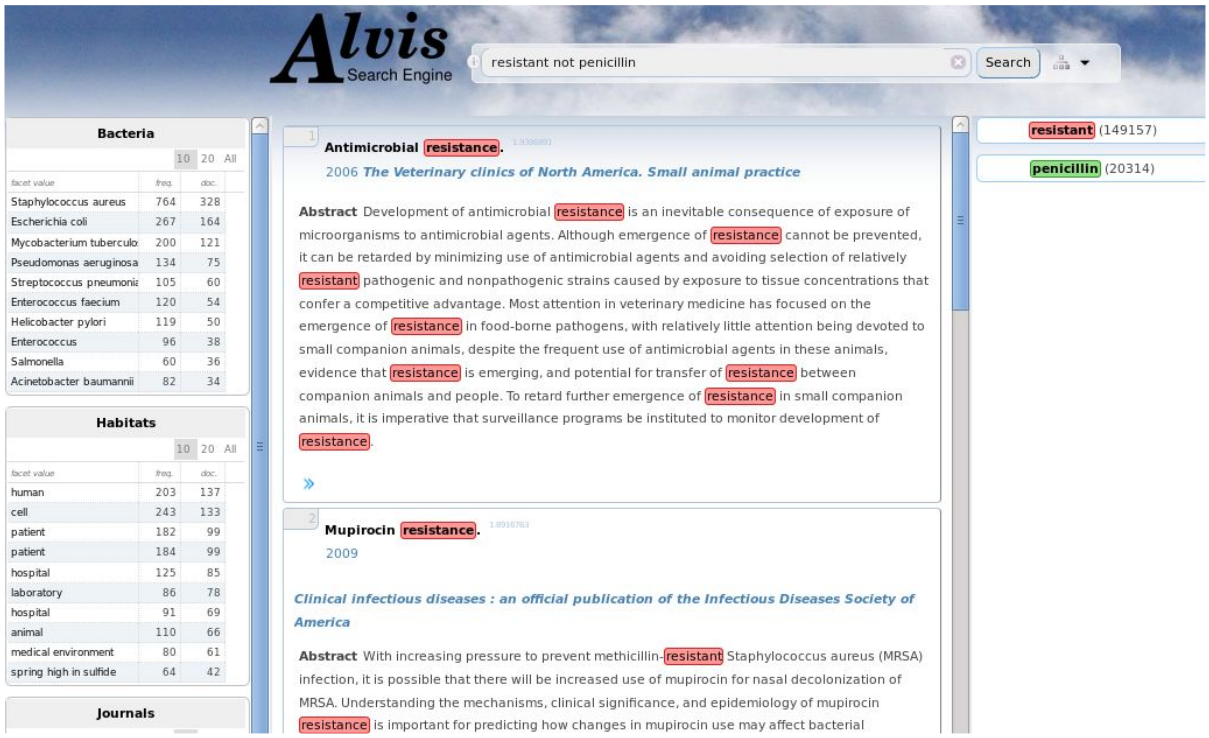
3. The Alvis search engine uses a language to specify multicriteria searches

(information about the language is displayed when clicking on the i next to the search bar)

a. If you query two terms like *penicillin* and *resistant* in the search bar, the search engine will look for the first term AND the second one



b. The Alvis search engine also accepts queries composed with AND, OR and NOT
   i. *penicillin and resistant* returns the same results as *penicillin resistant*, and the same as *resistant and penicillin*
   ii. *resistant or penicillin* returns : *penicillin and resistant* + *resistant* + *penicillin*
   iii. *resistant not penicillin* returns documents that do not contain *penicillin*



1.

c. If you want to look for a term occurring closely after another term in

the text, you can use the *term1 ~ NUMBER term2* expression, *e.g.* **resistant ~ 3 penicillin** where the Alvis search engine returns all the texts which have matched with the term *resistance* AND with the term *penicillin* located at 1, 2 or 3 positions after the word *resistance*.