New tools for pharmacy-specific literature search developed by PubPharm - the Specialised Information Service Pharmacy

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The Specialised Information Service (SIS) Pharmacy (Fachinformationsdienst Pharmazie) aims at sustainably improving the supply of literature for academic pharmaceutical research in Germany. Therefore new search tools are being developed which are providing full text access to pharmaceutical journals free of charge. The project is being funded by the German Research Foundation (Deutsche Forschungsgemeinschaft) since January 1st 2015. A special feature of the project is the collaboration between Braunschweig University Library and the Institute for Information Systems at Braunschweig University, through which cutting edge informatics research is being incorporated into search tools.

A core aspect is the user-centric implementation of an extensible and customizable research platform. The PubPharm discovery system was developed by the SIS Pharmacy. It is a search engine that allows pharmacy-specific literature search. The underlying database index goes well beyond Medline (PubMed) data to provide a comprehensive set of publications for pharmaceutical research. Hence, using one single query, many different literature resources can be found, for example, interesting Medline articles, articles in chemical journals (that are not contained in Medline), pharmaceutical e-books and PhD theses. The PubPharm discovery system contains an availability check which, for users from universities in Germany, is personalized based on location. Through this, the full text of many publications can be directly accessed. The database also contains authority data, which allows query expansion and thereby retrieval of additionally relevant documents. For example, if the search query is the brand name of a pharmaceutical drug, also publications containing only the INN or IUPAC name will be retrieved.
The PubPharm discovery system can be found here: www.pubpharm.de

In addition to the personalized availability check, SIS Pharmacy offers full text access to pharmaceutical journals that are not usually provided by many university libraries. These more than 50 journals include, for example, "Expert Opinion on Drug Delivery" and "Current Medicinal Chemistry". Researchers from pharmaceutical institutes at universities in Germany can register for gaining electronic full text access free of charge. These journals provided via SIS-licences are also included in the PubPharm search system.

The PubPharm search tools undergo a continuous development process. One additional application is structure search. It will be possible to search for a compound not only by its (textual) name but also by its molecular structure using a formula editor. The structure search function will be implemented within the next year. Research at the Institute for Information Systems aims at developing innovative search tools. If they proof to be beneficial, they will be incorporated into the retrieval mechanisms of the PubPharm system. One innovative application is a search function based on Natural Language Processing. It might provide a new way to find similar documents or compounds with similar effects. Functions of other search tools are for example based on similar key words, citations or molecular structures. The proposed innovative search function takes the whole context of a document into account and can find similar documents which do not contain the same or similar key words, compounds or molecular structures.

More information about SIS Pharmacy and the PubPharm system can be found in the PubPharm blog: https://blogs.tu-braunschweig.de/pubpharm/