

Karolinska Institutet improves research documentation thanks to ConturELN

Academic organizations are facing higher and higher demands on proper research documentation. At the Medical Biochemistry and Biophysics department at Karolinska Institutet poor research documentation made the situation untenable. By implementing ConturELN they have increased their productivity, facilitated easier access to information as well as improved the collaboration between scientists and projects.

Karolinska Institutet (KI) is one of Europe's largest medical universities, with nearly 6000 students and more than 2000 scientists. The research spans a wide range of subjects, from basic science, research in molecular biology to public health science and care research. KI also collaborates internationally and nationally with a number of healthcare and medical institutes, the industry and other universities.

At the department of Medical Biochemistry and Biophysics, a newly established Structural Genomics Centre, scientists conduct research focused on determining the three dimensional structures of proteins that have relevance to human health and disease, such as proteins associated with diabetes and cancer, research that in the end can lead to new and improved drugs.

– We operate a purely academic project but with an industrial focus and working procedure. Our goal is quantitative, to produce as many proteins as possible. At the same time we have the ambition to have the highest possible scientific impact, says Johan Weigelt, Chief Scientist of the Structural Genomics Centre

From an academic perspective, a lab notebook is used in a slightly different way than in the commercial industry. According to good scientific custom, you have to save your data for a number of years and you also need to have structured and legible lab notebook annotations. However, as scientists many times conduct their research individually, without much collaboration or connection to other projects, the documentation has often not been maintained in the most accurate way.

– We have to be able to document and know what we are doing. If we are to have a good organization in an academic group we must have something that keeps it all together and an electronic lab notebook is an efficient way of doing that, says Weigelt.

In early 2005, Weigelt and his team began to look into the possibility to implement an ELN system that would help them capture all the relevant data and make information sharing and communication easier. They selected ConturELN.

– We knew from the experiences of other companies that ConturELN works very well, both in an academic context as well as in a commercial context, so it was a natural step for us to move forward and implement ConturELN in our laboratories, says Weigelt.

ConturELN is set up with standard technology where all information is stored in a central database allowing powerful search and browse interfaces. The integration capabilities of ConturELN allow the Structural Genomics Centre to integrate ConturELN with their LIMS system. This enables scientists to create strong relations between the experiments they perform and records that are stored in the LIMS system. To grant off-site collaborators access to experimental data, an HTML browser interface is available through which PDF-renditions of ConturELN experiments are accessible.

The deployment of ConturELN at the Structural Genomics Centre at KI has been very successful. Thanks to the various features in ConturELN major improvements have been made within several areas.

Increased productivity; With ConturELN, users can cut & paste information electronically from various software programs directly into their ConturELN notebook, hence significant cuts in the previous time-consuming manual procedures. The possibility to reuse information by creating experiment templates has also saved a lot of time.

Increased access to information; By using ConturELN scientists are able to share data in an efficient way and they can secure that all documentation is available and accurate. The whole documentation process has become better yet simplified.

Improved collaboration; Since everyone has access to ConturELN, scientists can collaborate much more efficiently. It is easy to check which experiments have already been completed, discuss results with colleagues, share data, and ensure best practice in terms of experiment methodologies. The overview for project managers has also become a lot better as they easily can follow the progress in projects.

Johan Weigelt is very satisfied with the deployment of ConturELN at the Structural Genomics Centre. He is confident that electronic lab notebooks will have a natural place in the academic world in the future and that it is the way to move forward.

– Other academics would directly see the advantages if they got acquainted with ConturELN and what it could mean for them. What scientists have in the labs are often a bunch of old lab notebooks and samples in the fridges and freezers that no one really knows what it is. Effective documentation systems such as ConturELN will give research groups a better and longer lasting memory. It is something that an academic organization has to have, I think it's inevitable.