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# **Qlucore receives patent in Europe**

- New function provides better information for data analysis and cancer diagnostics

Nasdaq First North-listed Qlucore, whose software creates the conditions for faster, more precise, better cancer diagnostics and helps researchers with data analysis, has received a patent in Europe. This is for a new feature which generates robust analysis answers, even in the presence of large data sets and information overload. The new function is applicable to many application areas.

Analysis of large data sets often results in extensive lists of variables, which may, for example, represent genes associated with some outcome of biomedical interest. A biological interpretation is often complicated by the statistical instability of the lists employed. Qlucore's solution means that the amount of information is condensed, improving the basis for analysis.

"The idea for this invention came when we compared measurements between patient groups and produced ordered lists of what separated the groups. It was clear that small changes in measurement data could produce large changes in the ordered lists of genes. This may be a reflection of biological redundancy and biological stability which, paradoxically, results in unmanageable instability of measurement data," says Magnus Fontes, former professor of mathematics at Lund University and one of Qlucore's founders.

The new solution introduces a measure of statistical exchangeability for the variables which can partially capture, for example, biological redundancy. It enables more stable analyses.

The function is developed using a so-called 'statistical exchangeability' concept, which means that the invention measures the redundancy or excess information found in the data using an algorithm. This gives the user more stable conditions for comparing lists, which can, for example, mean that researchers or doctors can determine with greater certainty whether a patient will respond to a certain treatment or not.

Qlucore's new patented function can result in ordered lists of important biological information that are more stable and resistant to small changes in the underlying data than existing methods. The invention and patent is a significant piece of the puzzle in high-dimensional data analysis that requires robust answers.

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Magnus Fontes continues "This is a patent and a method that can help researchers who work with big data containing redundant information. This method can create better conditions for, among other things, cancer diagnostics. It is useful in both basic research and diagnostics. It is difficult to think of an area within high-dimensional data analysis where this method could not be useful."

This new feature has been developed by Magnus Fontes, one of Qlucore's founders, and Charlotte Soneson (PhD student at Lunds University at the time of the invention and now Research Associate vid Friedrich Miescher Institute in Basel). The research is published in Biostatistics. (Biostatistics. 2012 Jan;13(1):129-41. doi: 10.1093/biostatistics/kxr023. Epub 2011 Sep 10. PMID: 21908866.)

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## About Qlucore

Qlucore is a leading provider of new generation intuitive bioinformatics software for research and precision and companion diagnostics. Qlucore's mission is to make it easier to analyze the huge amounts of complex data generated by innovations in the fields of genomics and proteomics by providing powerful visualization-based bioinformatics data analysis tools for research and precision diagnostics. Qlucore Omics Explorer software is a Do-It-Yourself bioinformatics software for research in the life science, plant- and biotech industries, as well as academia. Qlucore Diagnostics and Qlucore Insights are software platforms with built in Al-based machine learning for multi-omics companion and precision diagnostics. Qlucore was founded in 2007 in Lund, Sweden and has customers in about 25 countries around the world, with sales offices in Europe and North America, and distribution in several countries in Asia. Qlucore is listed on the Nasdaq First North Growth market. www.qlucore.com

### Attachments

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