US researchers develop tool to improve diagnostic accuracy

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A research team at the University at Buffalo (UB) in the US has developed a new protein analysis tool called IonStar which can enhance the speed and accuracy of disease diagnosis and the analysis of drug effects.

The tool is designed to quantify and compare the abundance of proteins in patients with those of healthy people. This measurement is considered important to detect a disease or pharmaceutical reaction and for making new drugs, as it has the potential to reveal new biomarkers.

Existing protein analysis approaches are said to be time-consuming or lack accuracy, leading to the false identification of biomarkers.

The new tool is said to address these issues and reduce missing data by improving on sample preparation techniques and alignment, while integrating designs for mass spectrometry analysis.

The tool has been used to analyse protein variation in diabetes, cancer, cardiovascular disease, neuro and retinal degeneration. The researchers now plan to work on increasing the number of samples that IonStar can analyse.