OTTO VON GUERICKE UNIVERSITÄT MAGDEBURG

CDS
RESEARCH CENTER DYNAMIC SYSTEMS
SYSTEMS ENGINEERING

Treating leukemia with math

09.09.2022 - A computer model developed in a research project headed by CDS member Prof. Dr. Sebastian Sager is intended make the therapy of leukemia patients gentler and more individualized in the future. Here, the number of white blo cells is measured and digital twins are created on the basis of these. With these digital twins, the development of healthy a diseased cells can be individually simulated on the computer.

The model makes it possible to determine the best possible time for the chemotherapy of patients. Mathematical equations can used to calculate and describe the influence of the therapy on the different cell stages and the immune system. However, the calculations do not take over the decision of the physicians, but serve as a recommendation and facilitation.

Furthermore, it is only possible to work with the model if the standardized treatment type is used. Due to the large number different chemotherapies that could be combined with each other, the researchers, including CDS member Prof. Dr. Inna Lavr want to expand their calculations to include these mechanisms of action in a next step. In the best case, it would be possible apply for a larger study with control groups as early as next year.

› to the official press release of the Otto von Guericke Universität Magdeb
(https://www.ovgu.de/Universit%C3%A4t/Zusammen+die+Welt+neu+denken/Neuigkeiten/PM+58_2022-p-122576.html)

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