

Onconnect Consortium Data Science

Joint project of the Anna Poetsch Group and the Jakob Nikolas Kather Group

Oncological treatment algorithms are becoming increasingly complex, while at the same time the amount of routinely available clinical data, especially data on individualized cancer therapy, is growing exponentially. One goal of the Poetsch and Kather groups is to develop new tools and expertise to leverage multimodal clinical data for improved clinical decision making using computational approaches such as deep learning. The Onconnect fellow in the Onco-Data Science Line will develop, extend, and clinically validate sophisticated data analysis tools. After acquiring basic skills in analyzing various data types in oncology, the project will focus on multimodal data integration from genomic, laboratory, image and text data for treatment decision making in one of the laboratories. Clinical rotations (Year 1 and 2) will involve, among other things, participation in multidisciplinary tumor board meetings (MDT) to gain direct insight into oncology decision-making processes. The fellow can also gain insight into medical product development in industry. A rotation into a data science company is planned as part of the program.

This PhD is embedded in the Dresden Medical Scientist College ONConnect, which includes besides the Onco-Data Science Line also a Precision-Onco Line, a Radio-Onco Line, and Onco-Surgery Line. This interdisciplinary project therefore includes close interaction with related disciplines, other PhD and MD students, and complementary training.

In this project, the candidate will shape translation from the identification of a clinically relevant problem to the development of new specific AI methods witness clinical testing and the development of a medical product.