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Niels Halama* (niels.halama@nct-heidelberg.de), INF 460, 69120 Heidelberg, Germany, and **Pornpimol Charoentong, Nek Valous** and **Rodrigo Rojas Moraleda**. *Systematic exploration strategies in heterogeneous biological and medical datasets for cancer therapy: from image analysis to multi-agent modelling.*

Cancer treatment is being changed by new types of information being available through high-throughput sequencing, proteomics and other -omics technologies. Fundamental problems arise as soon as one has to deal with $n=1$ datasets and individual patient predictions. Beyond small or complex datasets, spatial distributions within tissues govern the interaction and can have major impact on the clinical outcome especially for immunotherapy. In contrast to population based models or differential equation models, spatial interactivity is preserved in multi-agent modelling. Together with new tactics for data acquisition and analysis, a new coherent workflow allows to create a quantitative mathematical framework to allow practical guidance for clinical assessment of immunotherapy and other modalities. (Received September 16, 2019)