

BIOGRAPHY



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Project number
2207/02/01

Project duration
2/2022 - 1/2025



"As no other incoming scheme exists in Slovakia for international researchers, Michal Kováč applied to SASPro Marie Skłodowska-Curie Actions COFUND fellowship with the vision of establishing his of his own lab and pursuing research in explainable artificial intelligence in domain of precision oncology."

Asoc. Professor Michal Kovac is an Oxford graduate in software engineering (MSc. 2016), with prior academic credentials in genetics (PhD., 2006) and molecular biology (MSc., 2001). In 2021 he habilitated in applied informatics at the faculty of informatics and information technologies STU.

Michal Kovac has become internationally recognized through involvement in large-scale collaborative genomic projects, which led to top-tier scientific publications. To this date, he has co-authored 41 peer-reviewed current contents scientific publications in the fields of data science and oncogenomics that received more than 2100 citations, yielding H-index of 19. The most scientifically acclaimed papers appeared in Nature Genetics (PMID: 23263490), Nature Ecology and Evolution (PMID: 30177804), Nature Communications (PMID: 25790038,).

PROJECT SUMMARY

Artificial intelligence for personalized oncology

The methodologies that we use to study cancer are ever changing. It seems to me that 21st century cancer medicine is much about analysing big data and using mathematical modelling to extract information that can help oncologists predict how tumours will evolve and react to therapy.

Herein, we will explore new artificial intelligence (AI) strategies to understand clonal complexity of human tumours and to identify genetic traits that are required for cancer therapy resistance. The knowledge gathered through this project will be used in the introduction of personalized oncology, as in heterogeneous tumours the major clone may not be the one that gives rise to recurrent, metastatic, or therapy resistant tumour cells.