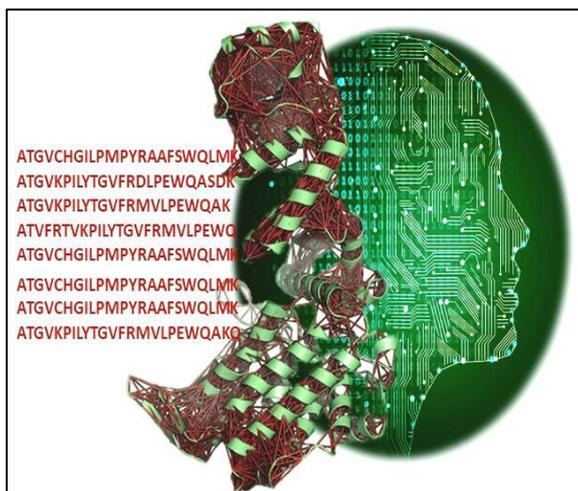# Quantumzyme collaborates with Zummit Infolabs for Developing AI/ML platform for Enzyme Engineering

Bangalore (India), July 16, 2021 – Quantumzyme™, a biotechnology-based *in silico* enzyme discovery and engineering company, today announced a joint collaboration with Zummit Infolabs for developing machine learning and artificial intelligence based platform that drastically accelerate the discovery process of novel enzymes. as well as predict new enzyme variants for a given substrate. Zummit Infolabs focuses on building applications using cutting edge technologies like Deep Learning, Reinforcement Learning and Robotic Process Automation. It aims to build in such a way that any researcher or scientist without having prior knowledge of AI/ML can also use the platform.

The astronomical size of protein sequence space restrains us to find a better enzyme as no experimental and computational techniques can never sample the entire protein sequence space. As a result, it takes a huge time and cost to find the right sequence of an enzyme with improved activity. With the advancement of new algorithms in artificial intelligence, data-driven enzyme engineering may overcome the limitation of vast protein sequence space.

As a part of this collaboration, several applications of AI in the field of enzyme engineering are envisioned. Starting from the discovery of new enzymes for a given reaction to enhance the activity of enzyme variants. The vast data points took from the public domain are used to predict the best enzyme or enzyme variants with great accuracy. Using specialized deep learning architecture, the model can successfully predict the various experimental parameters such as binding affinity, catalytic rate constant (K_{Cat}), enantiomer selectivity (ee% or $\Delta\Delta G$), etc. The ultimate goal is to accelerate the process of enzyme engineering so that it can be applied for industrial purposes in a very short period.

About Quantumzyme

Quantumzyme is a biotransformation company, focused on Clean and Green Chemistry. It is a customer-centric research organization, which works towards the enhancement of enzyme activity, selectivity and specificity by applying novel Quantum Mechanics, Molecular Modelling, and engineering approaches. Leveraging its expertise and experience in the domain of computational chemistry and biology Quantumzyme has worked towards greener development of pharma APIs, biotransformation in flavours and fragrances industry and enzymes instrumental in metabolic pathways.

About Zummit Infolabs

Zummit infolabs is a technology company, specializing in software development and web-based services. It aims to efficiently deliver essential and intrinsic solutions to clients globally. Zummit utilizes Artificial Intelligence (AI), machine learning, deep learning, emotion detection, etc. to solve critical problems related to the fields of Retail, Healthcare, Pharma, Manufacturing and Hospitality. A small but talented team, Zummit is more than capable of taking all the giant leaps in its sphere to provide top-notch solutions for clients. Our dedicated and motivated team seeks to fulfill the goal of broadening horizons and redefining solutions**.**