



Arthur Neuberger earned his PhD in pharmacology and biochemistry from the University of Cambridge in the UK in 2018, studying the structure and function of bacterial multidrug efflux pumps – bacterial cell membrane proteins/transporters that render bacterial cells resistant to a variety of applied antibiotics. As a DFG-funded Walter Benjamin Fellow, Dr. Neuberger has been pioneering research on TRP (Transient Receptor Potential) channels, which are also cell membrane proteins. These channels either regulate ion homeostasis or act as cellular sensors for various cellular and environmental signals, leading to safer, non-addictive pain relief and new cancer therapies. Neuberger mapped the structure of human TRPV1, a key pain and heat sensor, providing an alternative to conventional opioid-based pain relief. Neuberger also discovered how plant compounds from cannabis and soy can block TRPV6, the major calcium uptake channel in the human gut and a channel heavily linked to cancer, which suggests these natural compounds can be effective cancer therapeutics. Neuberger's work not only advances our understanding of TRP channels but also offers practical solutions for pain management, cancer treatments, and more.