

# Immersive structure exploration with Virtual Reality

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In 1981 Jane Richardson developed the hand-drawn ribbon diagrams, the first schematic representations of protein structures to be systematically adopted by the community. Since then, the progress in technology and computational power provided scientists with increasingly advanced ways to visualize the macromolecules. Among these methods, Virtual Reality (VR) represents the most immersive approach to exploring molecular architectures. Protein structures are three-dimensional and, contrarily to 2D screen-based visualizations, VR allows us to treat them as actual 3D objects, instantly giving a better perception of the 3D data. Nanome provides a virtual reality environment for molecular modeling and structure-based drug discovery. With Nanome, scientists and educators can visualize, design, and simulate chemical compounds, proteins, and nucleic acids. The platform was designed to be an intuitive yet powerful tool that fits smoothly into robust structure-based drug design pipelines. The virtual environment offers a platform to improve real-time collaboration and communication of structural data. Scientists around the world can access the same VR room and work together despite geographical boundaries, which in turn fuels novel ideas and findings in structural biology and structure-based drug discovery.



Figure 1