Molecular Storytelling for Structural Biology Outreach and Education

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Knowledge about the structure and function of biomolecules continues to grow exponentially, enabling us to "see" structural snapshots of biomolecular interactions and functional assemblies. At PDB-101, the educational portal of the RCSB Protein Data Bank, we have taken a storytelling approach to make this body of knowledge accessible and comprehensible to a wide community of students, educators and the general public. For 20 years, the Molecule of the Month series has utilized a traditional illustrated storytelling approach that is regularly adapted for classroom instruction. Similar visual and interactive storytelling approaches are used to present topical subjects at PDB-101, and full curricular materials for building a detailed narrative around topics of particular interest. This emphasis on storytelling led to the Video Challenge for High School students, now in its 7th year. In this workshop, I will present some of the lessons we have learned for teaching and communicating structural biology using the PDB archive of biomolecular structures. PDB-101 and the RCSB PDB are funded by the National Science Foundation (DBI-1832184), the US Department of Energy (DE-SC0019749), and the National Cancer Institute, National Institute of Allergy and Infectious Diseases, and National Institute of General Medical Sciences of the National Institutes of Health under grant R01GM133198.