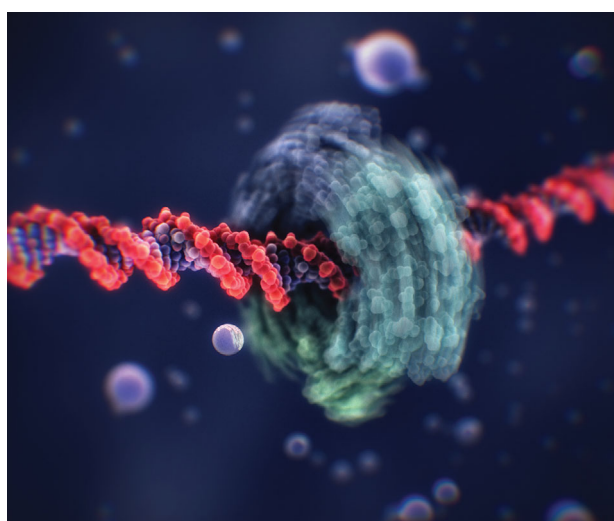


Proliferating cell nuclear antigen sliding along DNA



Proliferating cell nuclear antigen sliding along DNA by Peter Mindek.

Description: This image shows a Proliferating cell nuclear antigen (PCNA) molecule sliding along the DNA in a rotation-coupled translation manner. It is part of an animation explaining the process of DNA replication. It was rendered in Marion/Vj [1] real-time molecular animation framework. While the PCNA molecule is loaded from a PDB file (6TNY), the DNA is generated procedurally. The bubbles are generated in real-time as a post-processing effect, using a previously rendered frame to create the illusion of refraction. While light-interacting bubbles are unrealistic at the atomic scale, they serve as anchors helping with spatial orientation while the camera moves around in the 3D scene. The motion blur was created by averaging 30 frames of the real-time rendered animation.

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Peter Mindek: is a co-founder and CTO of nanographics, a scientific visualization studio based in Vienna, Austria. He received his doctoral degree from TU Wien in 2015. In his dissertation, he proposed ways to visually explore large parameter spaces of visualizations of scientific data. As a post-doctoral researcher at TU Wien, he developed techniques for illustrative molecular visualization and storytelling. Currently, besides scientific visualization, his research

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Alfredo De Biasio: is an assistant professor in bioscience at King Abdullah University of Science and Technology. He received his PhD from International Centre for Genetic Engineering and Biotechnology, Trieste, Italy in 2008. His research interests revolve on the structural biology of human DNA replication and repair. His work makes use of cryogenic Electron Microscopy (cryo-EM) to obtain near-atomic resolution information on key enzymes operating in the human replisome, such as DNA polymerases. This structural data is combined with biochemical assays for a thorough understanding of the involved biomolecular processes.

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