



# 1st Human Immunodeficiency Virus 3D

PLACE: Ivan Konstantinov · Yury Stefanov · Aleksander Kovalevsky · Yegor Voronin · Visual Science Company

At first glance, it could pass for a piece of crochet, a fluffy gray and orange ball. But its real-world counterpart is far more destructive: It claims an estimated 2 million lives a year and has wreaked more global havoc than some wars.

Ivan Konstantinov's winning illustration reduces HIV to unnerving simplicity. His team at the Visual Science Company in Moscow spent months combing through the latest research, compiling data from more than 100 papers and assembling the information into a coherent image of a 100-nanometer HIV particle. They depicted the proteins in just two basic colors: Gray equals host, orange equals virus.

HIV breaks into immune cells and hijacks their genes. The orange proteins on the outside bind to the immune cell, letting the viral core slip inside. Once in, it fuses with the cell

membrane (gray shell), turns its viral RNA into DNA, and integrates into the cell nucleus. The host cell then starts making viral proteins, turning into a virus factory.

The restrained, two-color system worked for the judges. "It uses material from the host to sort of wrap itself in this membrane," says panel of judges member Corinne Sandone. "That point is brought home much clearer than another example of that same model that might be coded with eight to 10 different colors."

In addition to the stark color scheme, the image of the particle split open to reveal its viral core itself deeply shook the panel, says panel of judges member Tom Wagner: "You have this gaping mouth that almost looks like it's ready to eat you the way AIDS is eating away at society."