

Virus discovery could impact HIV drug research

November 20 2014, by Scott Gallagher

A research team led by Portland State University (PSU) biology professor Ken Stedman has unlocked the structure of an unusual virus that lives in volcanic hot springs. The discovery could pave the way for better drugs to treat Human Immunodeficiency Virus (HIV), which can lead to AIDS.

Stedman's team gathered the [virus](#) samples from a very hot acidic spring in Japan, but he finds them all over the world. He said these viruses only infect microbes that live in hot springs, but its structure is remarkably like the HIV virus.

"Understanding the structure of a virus is important for developing drugs," Stedman said. "The HIV virus mutates very fast once it infects the body, which makes it challenging to treat. By knowing the structure of the virus, we'll have a better understanding of how to inactivate it."

More than 35 million people throughout the world are living with HIV infection. AIDS, the final stage of HIV infection, has killed 36 million people worldwide since the epidemic began in 1981, according to the U.S. Centers for Disease Control and Prevention.

"It used to be thought that HIV was the only kind of virus with this structure. We now know this is not the case, so there may be other viruses that we don't have drugs for that have a similar structure," Stedman said.

The Stedman team's discovery will be the cover story of the January 2015 issue of *Virology*, one of the top two scientific journals in the virus field.

Provided by Portland State University

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