Scientific Achievement
Determined the molecular structure of an envelope protein on the hepatitis C virus (HCV) bound to a host antibody component called an antigen-binding fragment

Significance and Impact
The structure will aid the development of therapies and a vaccine for HCV

Research Details
• Using x-ray crystallography at NSLS beamline X25 and small-angle x-ray scattering at ALS, researchers determined structure of an HCV envelope protein, E2, in complex with an antigen-binding fragment
• HCV envelope helps the virus enter the host cell and evade its immune response; E2 binds to host cell and thus plays a direct role in the infection, making it a logical target for potential drugs to treat HCV
• E2 structure consists of novel structure not seen in other viral proteins
• These data will help define role of E2 in HCV infection