



DREXEL UNIVERSITY

College of  
**Medicine**

*Lynn Yeakel Institute for  
Women's Health and Leadership*

## 2023 Marion Spencer Fay Award Honoree

### **Erica Ollmann Saphire, PhD, MBA**



Erica Ollmann Saphire, PhD, MBA is the president, CEO, and a professor at the La Jolla Institute for Immunology. Her research explains, at the molecular level, how and why viruses like Ebola and Lassa are pathogenic and provides the roadmap for medical defense. Her team has solved the structures of the Ebola, Sudan, Marburg and Lassa virus glycoproteins, explained how they remodel these structures as they drive themselves into cells, how their proteins suppress immune function and where human antibodies can defeat these viruses.

Dr. Saphire herself solved the first crystal structure of the entire human antibody, revealing at the same time the hexameric assembly by which the IgG activates the complement cascade for immune protection. Another discovery from her lab expanded the central dogma of molecular biology by proving that certain viral proteins actually rearrange into different structures at different times for different functions. Dr. Saphire was also the galvanizing force behind the Viral Hemorrhagic Fever Immunotherapeutic Consortium, of which she is now the director. This consortium, an NIH-funded Center of Excellence in Translational Research, unites 44 previously competing academic, industrial and government labs across five continents to understand and provide antibody therapeutics against Ebola, Marburg, Lassa and other viruses. Based on that effort, she was asked to lead the Coronavirus Immunotherapy Consortium (CoVIC), which aligned more than 50 competing entities to compare 350 candidate therapeutics against SARS-CoV-2 side by side. This work is providing the independent verification needed for NIH clinical trials and is building a permanent, publicly accessible database on how antibodies target coronavirus spike.

Dr. Saphire's work has been recognized at the White House with the Presidential Early Career Award in Science and Engineering, with young investigator awards from the International Congress of Antiviral Research, the American Society for Microbiology and the MRC Centre for Virus Research in the United Kingdom. She has also been recognized with an Investigator in the Pathogenesis of Infectious Disease Award from the Burroughs Wellcome Fund, and by the Surhain Sidhu award for the most outstanding contribution to the field of diffraction by a person within five years of their PhD. She has been awarded a Fulbright Global Scholar fellowship from the United States Department of State and a Mercator Fellowship from Deutsche Forschungsgemeinschaft, to develop international collaborations around human health. In 2021, she was named Scientist of the Year by the ARCS Foundation San Diego.

Dr. Saphire is being honored with the 2023 Marion Spencer Fay Award for her transformative, uniquely impactful ongoing research and groundbreaking discoveries in structural virology, as well as her visionary international leadership contributions in immunology and her demonstrated commitment to mentorship.