

Spectrum Lecture Series 2017-2018

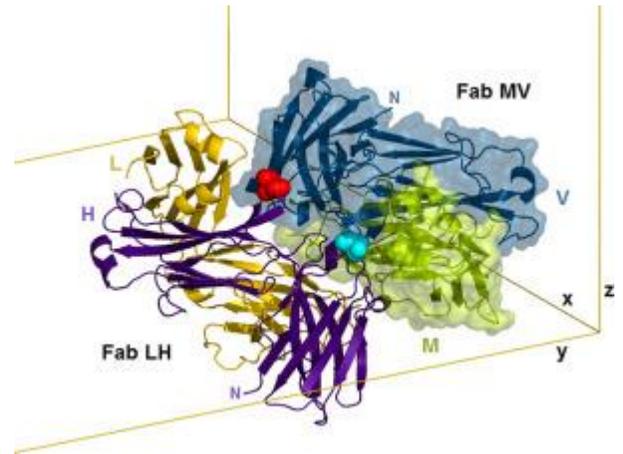
Protein Structures on the Front Lines of Human Health

Tuesday, April 24, 4:30 PM

Montgomery College
Germantown Campus

BE151

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Group
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Technology



Abstract: Life's cellular infrastructure rests on protein binding interactions that were invisible until two generations ago. Using protein crystallography and other recent tools we can now see how proteins conduct metabolism, how they transform DNA into individual traits, and in some cases how defective proteins cause disease. This talk focuses on two examples of proteins whose specific shape is involved in crucial effects on health. The first example is a protein produced in the historically infamous bacterium *Yersinia pestis*, which killed a record 20% of the human population 700 years ago. The second is an antibody engineered to carry a toxic payload and deliver it specifically to cancer cells. These different cases both illustrate the powerful incentive to understand the protein interactions that underlie human health.

Dr. Travis Gallagher is a scientist in the Biomolecular Structure and Function Group at the Institute for Bioscience and Biotechnology Research (IBBR) at the National Institute of Standards and Technology (NIST). He began his studies at MIT, where he earned a BS degree in Electrical Engineering and Computer Science. From there, he moved to the University of Texas at Austin, where he earned his Ph.D. in Biochemistry and Protein Crystallography. After completing his postdoctoral studies he joined the Biotechnology Division at NIST. His current work focuses on studying the structure and function of molecules of biological significance using the tools of crystallography.

As always, Spectrum Lectures are appropriate for a general audience and admission is free. No tickets are required. For questions or to request accommodations for physical disability, please contact Rick Pires at Richard.Pires@montgomerycollege.edu or 240-567-7798. More information about Spectrum Lectures can be found at: <http://cms.montgomerycollege.edu/edu/departments.aspx?id=10883>