

# Welcome to 2017-18 SMART Teams!

*“Models in Science are necessary as clothes hangers on which ideas and theories can be hung up.”*  
- Erwin Chargaff

Dear 2017-2018 SMART Teams,

## Welcome to the Wonderful World of BioMolecular Modeling and the 2017-2018 SMART Team Program!

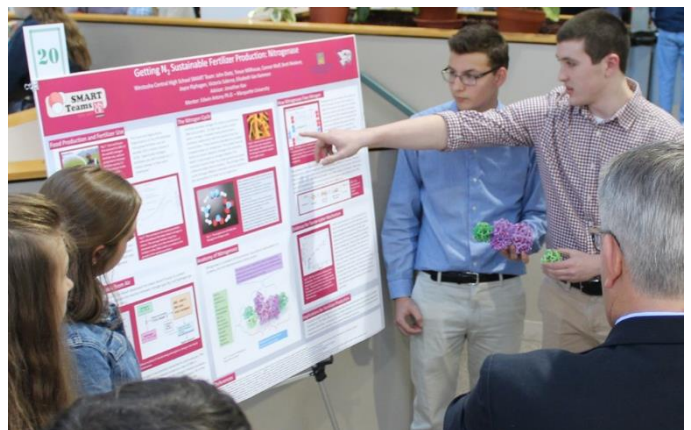
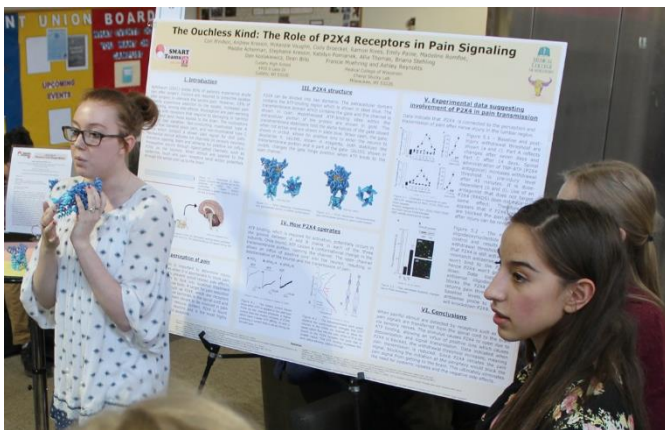
We are so pleased to have you on board for another exciting year of molecular stories and protein modeling! As a member of SMART Teams, **you are now part of a unique and prestigious community** of students, teachers and research scientists who collaborate and learn about cutting-edge molecular biology! Over the next eight months, the goal for SMART Team members will be to discover firsthand that science is not just a static collection of facts in a textbook. **Science is a dynamic process that changes every day!** New questions bring about new discoveries. With these new discoveries comes a deeper understanding of how the world works. Science concepts in textbooks are the result of the “process of science” that occurs in the field of research. In this program, you will interact directly with researchers... the same people who generate concepts that end up in textbooks! Every day, research scientists ask questions that do not currently have answers. **You will have the opportunity to ask questions and search for answers right along with them!**



The Center for BioMolecular Modeling strongly believes that science cannot be learned without engaging your senses. To that end, we’ve developed **various physical models** to help students and teachers learn more about biochemistry. In this program, you will participate in the modeling process by using many of these models, as well as computer visualization software (Jmol) to design a 3D model of a protein. Using 3D printing technology, we will build a model of your design to guide you in developing a presentation to tell a molecular story. You will converse with researchers about your project and experiences on SMART Teams. **These are opportunities that most young students don’t experience prior to college!**

## We have designed the SMART Team program with three phases:

- **The Qualification Phase:** This is all about practice and preparation! Here you will learn about protein structure and function, while practicing Jmol model design and scientific writing.
- **The Research and Design Phase:** This begins when you meet your research mentor and embark upon a specific project in their field. You will continue to design a protein, analyze scientific papers, and write an abstract; all with the intent to tell a molecular story.
- **The Presentation Phase:** This is your “capstone experience” and is all about communicating your science! Your teacher and mentor will guide you through developing a poster presentation to be shared with others at an event in spring.



In addition to learning protein biochemistry, the SMART Team program is geared to help you develop a **variety of skills** including writing, designing, communicating, analyzing and collaborating. We hope you take full advantage of this great opportunity and enjoy the process. We look forward to working with you!

If at any time you have any questions, please don't hesitate to get in touch!

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