Chemists awarded $7.5M grant to fight nerve agents

A $7.5 million National Institutes of Health grant advances efforts of chemistry professors Christopher Hadad and Thomas Magliery to find ways to counteract deadly chemical nerve agents that might be used in terrorist attacks. They work on engineering enzymes that already exist in human blood that can deactivate these agents; then produce and formulate them as drugs. The research could lead to new types of antidotes for exposure to pesticides and other poisons.

Leading the nation in education, innovation, research.

AT A GLANCE

$9 million annually from national granting agencies and industry

FACULTY EXCELLENCE

Include a member of the National Academy of Sciences; Ohio Eminent Scholars; Sloan Fellows, Dreyfus Teacher-Scholar awardees; and fellows of the American Physical Society, the American Ceramic Society and the American Association for the Advancement of Science.

UNDERGRADUATE DEGREES:

- BS, BA

MS STUDIES:

- Combined BS/MS degree
- Program in biotechnology

"We provide our students with excellent training in the classroom and in the research laboratory. Our graduate students go on to hold positions in the finest universities, companies, and government laboratories, and we take pride in their research and professional accomplishments."

(Susan Olesik, Chair, Department of Chemistry and Biochemistry)
THE RESEARCH EXPERIENCES TO ENHANCE LEARNING (REEL) PROGRAM

A statewide effort to reinvent the way basic college chemistry courses are taught. REEL engages students in authentic research projects, encouraging ownership of their learning processes. Projects are based on real-world problems, such as investigating contaminants in local river ecosystems; the synthesis of medicines; and designing novel, non-toxic inorganic pigments.

UNDERGRADUATE CHEMISTRY/BIOCHEMISTRY CLUB

Student-led organization explores areas of student interest and helps in planning their future by exploring career possibilities.

STUDENT AFFILIATES OF THE AMERICAN CHEMICAL SOCIETY (SAACS)

Offers students a wide range of programs and activities to enhance the college experience and prepare for successful careers.

PHD RESEARCH AREAS:

- Analytical, biological, inorganic, organic, physical and theoretical chemistry
- photochemistry, stereochemistry, electrochemistry; kinetics
- nanosecond and crossed-molecular beam studies
- theoretical structure and dynamics
- statistical mechanics
- organic synthesis
- inorganic synthesis
- carbohydrate chemistry
- NMR, ESR, laser and vacuum UV spectroscopy
- pulse radiolysis
- X-ray structures
- multi-enzyme complexes
- catalysis
- mechanisms of action of enzymes and coenzymes
- molecular biology
- bio-membrane studies
- surface chemistry and separations

OUTREACH AND ENGAGEMENT

Wonders of Our World (W.O.W): A Collaborative Science Education Program of Active Scientists and Elementary School Teachers supplements existing science programs in elementary schools; brings excitement of science into the classroom; increases involvement of local scientists, parents and undergraduate science students in important community projects; generates a pathway that gives teachers easy access to Ohio State scientists; and establishes a model for scientists to assist science programs in other elementary schools.