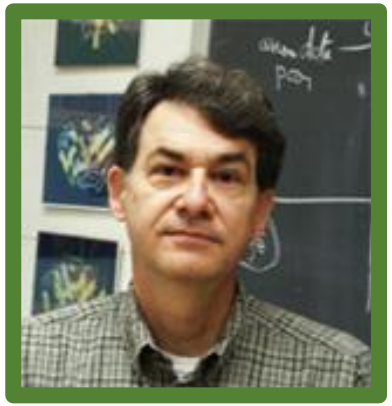
Dr. James Knox

Missouri S&T Class of ‘63



MISSOURI S&T

Dr. Knox graduated from Missouri S&T with a Bachelor’s in Chemistry in 1963. From there, he went on to get a doctorate from Boston University, and did postdoctoral work at Oxford and Yale Universities. He retired in 2002 and is Professor Emeritus of Molecular and Cell Biology at the University of Connecticut.

Research Interests: “Biophysical and stereochemical analysis of 3D macromolecular structure, especially by means of x-ray scattering and protein crystallography. The tertiary structures and enzymic mechanisms of several bacterial drug targets are being established in an effort to assist medicinal chemists in drug/inhibitor design. Current enzymes under study are the beta- lactamases and transpeptidases which interact with penicillin-type antibiotics, and two D-alanyl ligases of cell wall synthesis which are potential targets of new drugs.”

For more information, visit https://mcb.uconn.edu/person/james-knox/

Recent Publications:

1. Knox, J. R. 2012. Before Our Time: Early ß-Lactamase Papers and the People Who Wrote Them. In ß-Lactamases, Nova Science Publishers (J.-M. Frere., ed.), Chapt. 1, pp. 1-20.
2. Nukaga, M., C. R. Bethel, J. M. Thomson, A. M. Hujer, A. Distler, V. E. Anderson, J. R. Knox and R. A. Bonomo. 2008. Inhibition of class A ß-lactamases by carbapenems: Crystallographic observation of two conformations of meropenem in SHV-1. *J. Am. Chem. Soc.* 130: 12656–12662.
3. Venkatesan, A. M., et al. D. M. Shlaes, J. R. Knox and T. S. Mansour. 2006. Structure-activity relationship of 6-methylidene penems bearing 6,5 bicyclic heterocycles as broad-spectrum ß-lactamase inhibitors: Evidence for 1,4-thiazepine intermediates with C7 R stereochemistry by computational methods. *J. Med. Chem.* 49: 4623-4637.