

## John Shanklin

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**Current Position:** Senior Biochemist in the Biology Department at Brookhaven National Laboratory

**Education:** Ph.D. in Horticulture (1988) from University of Wisconsin-Madison

**Non-scientific Interests:** Mountain biking, sailing, and hiking

I learned protein biochemistry and cell biology as a Ph.D. student working on the ubiquitin system in the laboratory of Rick Vierstra at the University of Wisconsin. For my postdoc, I moved to Chris Somerville's group at Michigan State's DOE Plant Research Lab where I became interested in fatty acid desaturase enzymes that had been discovered by the Nobel Prize winner Konrad Bloch. I found the idea of enzymes that could perform highly energy-demanding stereo- and regio-specific dehydrogenation of fatty acids—in which the nearest distinguishing landmark was 9-carbons distant—to be an intriguing mechanistic puzzle. Having cloned the genes for several desaturases and identified the diiron active site in Somerville's lab, I moved to Brookhaven National Lab as an Assistant Scientist in 1992, where I set about studying recombinant desaturases using a combination of physical biochemistry and genetics. A series of crystal structures, produced in collaboration with the Lindqvist Laboratory of the Karolinska Institute, proved particularly informative. The rich diversity of regioselectivity and chemical outcomes exhibited by desaturase and related enzymes provides an invaluable resource that we continue to exploit in understanding their selectivity and specificity. In this minireview, we focus on recent results that provide new insights into understanding the functional diversity of these enzymes.

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**Read Dr. Shanklin's article entitled:** Desaturases: Emerging Models for Understanding Functional Diversification of Diiron-containing Enzymes

<http://www.jbc.org/cgi/content/full/284/28/18559>