The NIEHS is pleased to announce that Michael Smerdon, a professor at Washington State University in Pullman, has received an award under the Method to Extend Research in Time (MERIT) Award Program. MERIT Awards are offered to investigators who have demonstrated superior skill and outstanding productivity during the course of their research careers. MERIT Awards relieve investigators from writing frequent renewal applications by providing the opportunity to gain up to 10 years of support.

Michael Smerdon's first award from the NIEHS was a Young Environmental Scientist Award, which he received in 1978. Since then, the NIEHS has been the sole supporter of his research. Smerdon is an outstanding investigator who, over the past 21 years, has set the early milestones in the field of DNA repair in chromatin and has continued to move it forward. He has investigated the effects of DNA damage by chemicals and UV light on the formation of a positional nucleosome, demonstrating that a single adduct of a model xenobiotic can enhance the level of nucleosome damage.

Understanding repair of DNA in specific regions of the packaged structure in the cell nucleus is crucial to understanding why certain DNA lesions are not repaired for long times in human cells. Such "long-lived" lesions can form mutations and ultimately lead to cancer. Furthermore, Smerdon has shown that selective repair of certain chromatin domains is absent in some of the repair-deficient human diseases associated with increased cancer frequency. These studies have provided conclusive evidence that formation of a nucleosome dramatically alters repair of UV-induced DNA lesions in both strands. Changes in DNA repair as a consequence of chromatin structure could have profound effects on the frequency of mutations, thereby affecting gene expression and function.

Smerdon was among the first investigators to focus on the role of chromatin structure in DNA repair, and he has made significant contributions to our understanding of how DNA repair systems deal with lesions embedded in chromatin. He continues to be recognized as a leader in the field of DNA repair, and his current research looks to provide new and novel insights into the mechanism of nucleotide excision repair on chromatin templates.

MERIT Awards