

**Dr. Carmello J. Rizzo**  
**Vanderbilt University**

Carmelo Rizzo earned his Bachelor's degree from Temple University. After working a summer at McNeil Laboratories (now Johnson & Johnson Pharmaceutical Research and Development) he entered graduate school at the University of Pennsylvania. During this time, he was trained as a synthetic organic chemist under the direction of Professor Amos B. Smith, completing his Ph.D. in 1990. He then spent 2 years at Columbia University as an NIH Post-doctoral Research Associate in Professor Ronald Breslow's lab. He has been a faculty member at Vanderbilt University since 1992. His research interests are focused on the chemistry and biology of DNA damage. He has co-authored 125 peer-reviewed publications over his career. While at Vanderbilt, Professor Rizzo has served as Deputy Director of the Center in Molecular Toxicology and is currently the Director of Graduate Studies for the Department of Chemistry.

**Presentation Title:**

**DNA Damage: A Key Event in Carcinogenesis and Cancer Chemotherapy**

**Abstract**

DNA damage is widely considered an initiating event in carcinogenesis. DNA is also the cellular target for a number of clinically used cancer chemotherapeutic agents. Two commonly used classes of chemotherapeutic agents that target DNA are alkylating agents and intercalators, which are often administered in combination. Although these agents both target DNA, they are believed to work by different mechanisms. We are exploring a new mechanism of action of a common DNA intercalating agent based on newly discovered reactivity, which is predicted to show synergy with a DNA alkylating agent. The overall goal of these studies is to provide new strategies that improve the efficacy of combination therapies.