"Chemistry is everything, as seen through the nobel molecular adventures of click chemistry"

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The concept of click chemistry matured simultaneously in different laboratories around the world in the 1990's. There was an urgent need for quantitative chemical reactions/molecular LEGO® to cope with the pressure from combinatorial science to synthesize, screen and identify one out of thousands – millions of compounds. We combined Peptide diversity with a variety of organic reactions including Diels Alder, Suzuki, INAIC and other reactions. During these investigations we more or less serendipitously discovered the CuAAC click reaction in 2001. The mechanism of the reaction will be discussed and its application in a variety of studies involving immobilization, mimicry, structural control and protein ligation will be presented. Our investigations included the CuAAC reaction in synthesis of stable surrogates for disulfide bonds in anti-biotic 9, we produced a click protease with improved proteolytic activity and ligated the HIV fusion triple helix on to a fluorescent click template. The more existential aspects of our fundamental understanding of chemistry, the importance of serendipity to unravel the true complexity of our world at the molecular lev-el, the associated need for freedom of research, and our pledge to the young to study chemistry for a better future, will also be discussed.