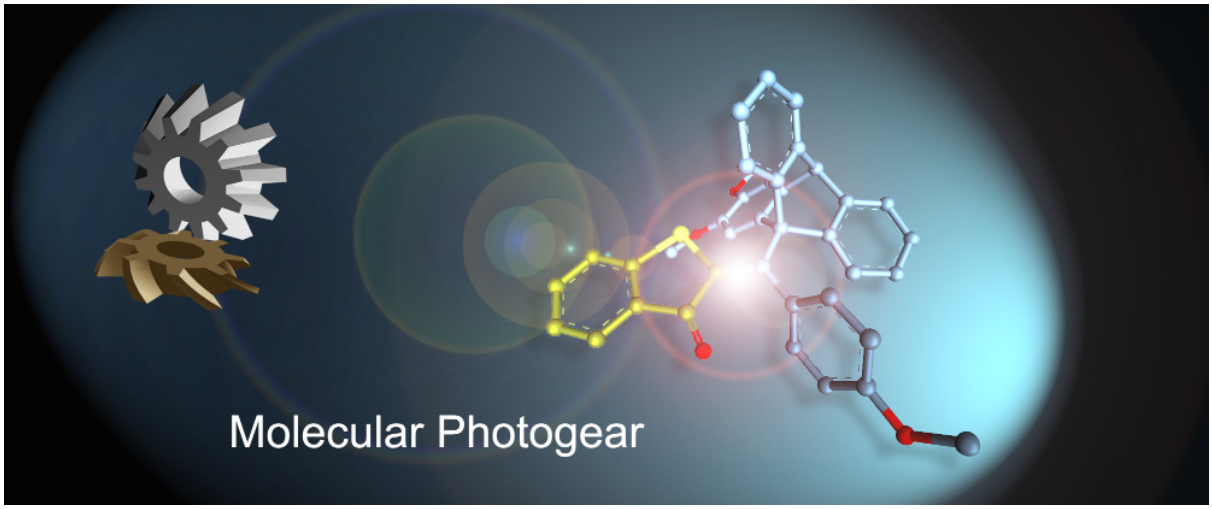
Abstract



The concept of miniaturization promises almost unlimited possibilities for the development of advanced and futuristic technology. Be it smart materials, nano-medicine or even artificial life – for all these areas synthetic chemistry is the ultimate foundation. In this lecture research on molecular machines will be the central topic to answer one fundamental question: how can one miniaturize mechanical processes and how can such nanoscalar processes be controlled and applied? To this end conceptual ideas spanning synthetic organic, physical, photo, and supramolecular chemistry will be explored while rediscovering the colorful chemistry of the late 19th and early 20th century.