

## 세미나 초록

성명	오경수
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발표 주제	Development of Technochemical Organic Reactions: Stories of Day and Night
발표 내용	<p><b>Daylight Chemistry:</b> The photochemical functionalization of organic compounds typically proceeds with the formation of various radical species either under direct photolysis or with triplet sensitizers. The photo-induced electron transfer processes of heteroaromatic compounds can be utilized for a number of synthetic transformations, including aerobic oxidation, sulfonylation, and selenofunctionalization. While the photochemical transformations of organic compounds have been widely utilized, the underlying photoredox processes are not well understood under visible light conditions.</p> <p><b>Nightshift Chemistry:</b> The continuous flow chemistry significantly enhances the economical, environmental, and safety features of industrial process chemistry. As such, the continuous flow aerobic oxidation of alcohols, a highly prized industrial process in fine chemical and pharmaceutical development, can assist removing the unfriendly process chemistry features: toxic reagents, cryogenic cost, waste production, and safety of intermediates.</p> <p>Our group is interested in the visible light photochemistry as well as the continuous flow chemistry protocols. In this presentation, the electron transfer catalysis of various organic compounds and the continuous flow aerobic oxidation reactions will be discussed to highlight the successful visible light photochemical functionalization as well as the development of continuous flow aerobic oxidation reactions. The mechanistic implication as well as the on-going continuous flow chemistry projects will be further showcased. In particular, we will detail the use of pure oxygen and a packed bed reactor with heterogeneous catalysts for the continuous chemistry settings, improving the effective mass transfer of <math>O_2</math> under low pressure and the catalyst reusability.</p> 