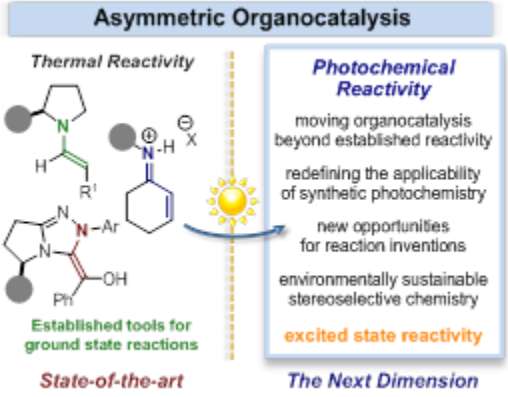
NANYANG TECHNOLOGICAL UNIVERSITY

CBC SEMINAR ANNOUNCEMENT

Professor Paolo Melchiorre
Institute of Chemical Research of Catalonia

Enantioselective Photo-Organocatalysis: Making Chiral Molecules with Light

Light-driven processes considerably enrich the modern synthetic repertoire, offering a potent way to build complex organic frameworks.[1] In contrast, it is difficult to develop enantioselective catalytic photoreactions that can create chiral molecules with a well-defined three-dimensional arrangement.[2] Recently, our research laboratories[3] has started a program aimed at translating the effective tools governing the success of ground state asymmetric organocatalysis into the realm of photochemical reactivity, exploiting the potential of key organocatalytic intermediates to directly participate in the photoexcitation of substrates. At the same time, the chiral organocatalyst can ensure effective stereochemical control. This single catalyst system, where stereoinduction and photoactivation merge in a sole organocatalyst, can serve for developing novel enantioselective photoreactions. The new synthetic possibilities, opened up by the application of organocatalysis within photochemical and radical patterns, will be discussed.[4]



1. Shultz, D. M.; Yoon, T. P. Science 2014, 343, 1239176.
2. Brimioulle, R.; Lenhart, D.; Maturi, M. M.; Bach, T. Angew. Chem., Int. Ed. 2015, 54, 3872–3890.
3. (a) Arceo, E.; Jurberg, I. D.; Álvarez-Fernández, A.; Melchiorre, P. Nature Chem. 2013, 5, 750–756. (b) Woźniak, Ł.; Murphy, J. J.; Melchiorre, P. J. Am. Chem. Soc. 2015, 137, 5678–5681. (c) Murphy, J. J.; Bastida, D.; Paria, S.; Fagnoni, M.; Melchiorre, P. Nature 2016, 532, 218–222.

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Date:	**20th February 2017 (Monday)**
Time:	**2:00pm – 3:30pm**
Venue:	**SPMS Research & Graduate Studies Office Conference Room**
Host:	**Assoc Professor Robin Chi**