Li Deng received his BS degree from Tsinghua University (1987), MS degree from University of Wisconsin-Milwaukee (1990) and Ph.D degree from Harvard University (1994). He carried out his postdoctoral studies at Harvard with Professors George Whitesides and Gregory Verdine (1995-1998) as an American Cancer Society Postdoctoral Fellow. He joined Brandeis University as an Assistant Professor of Chemistry in 1998. He became an Associate Professor in 2003, a Professor and was named the Orrie Friedman Distinguished Professor of Chemistry in 2005. He served as the Chair of the Chemistry Department at Brandies University from 2010-2013.

**Recent Publications**

1. Catalytic Asymmetric Umpolung Reactions of Imine, Y. Wu, L. Hu, Z. Li, L. Deng, L. *Nature* **2015,** *523,* 445-450.
2. Asymmetric Synthesis of Trifluoromethylated Amines via Catalytic Enantioselective Isomerization of Imines, Y. Wu. L, Deng. *J. Am. Chem. Soc.* **2012,** *134,* 14334–14337.
3. Asymmetric Olefin Isomerization via Proton Transfer Catalysis with an Organic Molecule, Y. Wu, R. Singh, L. Deng. *J. Am. Chem. Soc.* **2011,** *133,* 12458-12461.
4. Highly Enantioselective Conjugate Addition of Malonate and -Ketoester to Nitroalkenes: Asymmetric C-C Bond Formation via New Bifunctional Organic Catalysts Based on Cinchona Alkaloids, H. Li, Y. Wang, L. Tang, L. Deng, L. *J. Am. Chem. Soc.* **2004,** *126,* 9906-9907.
5. Asymmetric Organic Catalysis with Modified Cinchona Alkaloids, S.-K,Tian, Y. Chen, J. Hang, L. Tang, P. McDaid, L, Deng. *Accounts of Chemical Research* **2004,** *37,* 621-631.

**Activation of Nucleophiles for Asymmetric Reactions with Organic Molecules**

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Organic molecule-mediated selective catalysis (i.e. selective organocatalysis) has evolved into a generally applicable, powerful strategy for asymmetric synthesis over the last several years. The advent of selective organocatalysis is marked by the discovery and development of a variety of fundamentally important modes of catalysis by chiral small molecules, which represented by hydrogen-bond donor catalysis by chiral thioureas, general base catalysis by cinchona alkaloids, iminium as well as enamine catalysis by prolines and synthetic chiral amines, chiral phase transfer catalysis, chiral nucleophilic catalysis and chiral NHC catalysis. This lecture will present synthetic and mechanistic studies focusing on the discovery and development of selective catalysis directed towards the activation of nucleophiles for a broad range of organic transformations.

References

1. Catalytic Asymmetric Umpolung Reactions of Imine, Y. Wu, L. Hu, Z. Li, L. Deng, L. *Nature* **2015,** *523,* 445-450.
2. Asymmetric Synthesis of Trifluoromethylated Amines via Catalytic Enantioselective Isomerization of Imines, Y. Wu. L, Deng. *J. Am. Chem. Soc.* **2012,** *134,* 14334–14337.
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