



The 20th Holger Erdtman Lecture

“A few of my favorite rings: Catalysis inspired by macrocycles”

*Monday October 1, 2018 at 15.30
Lecture room E3, Osquars backe 14, KTH*

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Lactones and lactams make up a range of structurally complex and functional compounds, from antibiotics to nanomaterials. Inspired by Nature's cyclic architectures, we are developing catalytic methods that feature stereoselective hydroacylation. Hydroacylation, the formal addition of an aldehyde C–H bond across an unsaturated functional group, is an ideal approach to carbonyl functionalities commonly found in bioactive molecules. We aim to advance hydroacylation as a unified strategy for transforming aldehydes into chiral esters, ketones, and amides. In this context, my lecture will discuss the design, scope, and mechanism for hydroacylation methods using both rhodium and cobalt catalysis. This goal led us to the serendipitous discovery of a strategy for one-carbon dehomologation featuring aldehyde C–H bond activation. The mechanism of this transfer hydroformylation along with its potential applications in both natural product synthesis and the petroleum industry will be highlighted.

Welcome!

Christina Moberg

Licheng Sun