



# Chair of Organic Chemistry I

## Thorsten Bach

### New Synthetic Methods in Organic Chemistry

The major goals of our research are the development and the application of new synthetic methods in organic chemistry. The focus is on catalytic methods which enable previously unknown transformations employing both photochemical and conventional techniques.

In *photochemistry*, we aim at the enantioselective formation of complex molecules employing catalytic approaches based on chiral sensitizers and chiral acids. Visible light has been identified as the ideal energy source to promote these and related photochemical processes.

In *transition metal catalysis*, there is a major research interest in  $C(sp^2)$ -H activation and in supramolecular approaches to the site-selective and enantioselective transformation of  $C(sp^3)$ -H bonds.

With regard to *total synthesis*, we focus on natural products with an unusual skeleton and on molecules whose mode of action we aim to elucidate and harness in collaboration with other scientists. Examples for recently completed target compounds are shown.

