

Benjamin List

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Since 2005, Benjamin List has been a director at the Max-Planck-Institut für Kohlenforschung in Mülheim an der Ruhr (Germany). He obtained his Ph.D. in 1997 at the Johann-Wolfgang-Goethe-University in Frankfurt am Main. From 1997 until 1998 he conducted postdoctoral research at The Scripps Research Institute in La Jolla (USA) and became an assistant professor there in January 1999. In 2003 he joined the Max-Planck-Institut für Kohlenforschung in Mülheim. He has been an honorary professor at the University of Cologne since 2004.

Professor List's research focuses on organic synthesis and catalysis. He has contributed fundamental concepts to chemical synthesis including aminocatalysis, enamine catalysis, and asymmetric-counter-anion-directed catalysis (ACDC). His group has pioneered several new amine- and amino acid-catalyzed asymmetric reactions originating from his discovery of the proline-catalyzed direct asymmetric intermolecular aldol reaction in 2000. Shortly thereafter, his group has developed the enamine catalysis concept and introduced the first proline-catalyzed asymmetric Mannich reaction. Subsequently, his researchers pioneered novel Michael reactions, α -aminations, enol-exo-aldolizations, and aldehyde α -alkylations. Furthermore, his collaborative efforts have provided a clearer mechanistic understanding of enamine catalysis and established the basis for the design of new reactions and catalysts.

His latest work deals with chiral anions in asymmetric catalysis. In 2006 he introduced the concept of asymmetric counter-anion-directed catalysis (ACDC). This very general strategy for asymmetric synthesis has recently found widespread use in organocatalysis, transition metal catalysis, and Lewis acid catalysis.

The accomplishments of Ben List's group have been recognized with the Synthesis-Synlett Journal Award in 2000, the Carl-Duisberg-Memorial Award in 2003, the Degussa Prize for Chiral Chemistry, the Lieseberg Prize of the University of Heidelberg, and the "Dozentenstipendium" of the German Chemical Industry in 2004. He received the Novartis Young Investigator Award in 2005, the JSPS-Fellowship Award in 2006, the Award of the German Chemical Industry and the Astra Zeneca Research Award in Organic Chemistry in 2007, and was named a Thomson Reuters Citation Laureate in 2009. In 2011 his group has been awarded an Advanced Grant (2.5M€) by the ERC. During the last years he has held many appointments as visiting Professor and named lectureships.