

BENJAMIN LIST

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Department of Homogeneous Catalysis
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Title of Lecture: “Designing Extremely Reactive Acid Catalysts to Solve Challenging Problems in Chemical Synthesis”

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Education:

1997 Ph.D., Goethe-Universität Frankfurt am Main

1993 Diplom, Freie Universität Berlin

Research and Professional Experience

2012 - 2014 Managing Director at the Max-Planck-Institut für Kohlenforschung
2005 - present Director (Full Professor) at the Max-Planck-Institut für Kohlenforschung
2004 Honorary Professor at the University of Cologne
2003 - 2005 Group Leader at the Max-Planck-Institut für Kohlenforschung
1999 - 2003 Assistant Professor, The Scripps Research Institute
1997 - 1998 Postdoc, The Scripps Research Institute

Awards and Honors

Member of The German National Academy of Sciences Leopoldina (2018); Member of the Selection Committee for the Otto-Hahn-Prize, GDCh (2018); Ta-shue Chou Lectureship, Institute of Chemistry, Academia Sinica, Taipei, Taiwan (2017); Prof. U. R. Ghatak Endowment Lecture, Kolkata, India (2017); Gottfried Wilhelm Leibniz-Prize (2016); European Research Council (ERC) Advanced Grant (2016); Carl Shipp Marvel Lecturer in Organic Chemistry, University of Illinois (2015); Thomson Reuters Highly Cited Researcher Prize (2014); Arthur C. Cope Scholar Award (2014); Horst-Pracejus-Prize (2013); Mukaiyama Award (2013); Otto-Bayer-Prize (2012); Novartis Lectureship Award (2012); European Research Council (ERC) Advanced Grant (2011); Research Award of the Endowment of the Chemical Industry (2007); Astra Zeneca Research Award in Organic Chemistry (2007); Novartis Young Investigator Award (2005); Degussa Prize for Chiral Chemistry (2004); Lieseberg Prize of the University of Heidelberg (2004); Lecturer’s Award of the Endowment of the Chemical Industry of Germany (2004); Carl-Duisberg-Memorial Award (2003); Synthesis-Synlett Journal Award (2000).

Research Interests

The List group focuses on the development of new catalysis concepts within the areas of organocatalysis, transition metal catalysis, and, to some extent, biocatalysis. Since 1999, the List-group has concentrated on enantioselective organocatalysis as a fundamental approach complementing biocatalysis and transition metal catalysis. They have a profound interest in developing “new reactions”, designing and identifying new principles for the development of organocatalysts, expanding the scope of already developed catalysts such as proline, using organocatalysis in the synthesis of natural products and pharmaceuticals, and also investigating the mechanism by which organocatalysts activate their substrates. Furthermore, in 2005 his group first conceptualized another approach to asymmetric catalysis, namely asymmetric counteranion directed catalysis (ACDC). This idea has not only progressed within the department but also at other institutions around the globe into a general strategy for asymmetric synthesis applied in organocatalysis as well as in transition metal catalysis and Lewis acid catalysis.