

CURRICULUM VITAE

Prof. Dr. Thorsten Bach

Address

University

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Date of Birth: April 15, 1965
Place of Birth: Ludwigshafen/Rhein
Researcher ID: M-2850-2014

Education

Schools and Universities

1971-1975	Grundschule Rödersheim-Gronau
1975-1983	Kurfürst-Ruprecht-Gymnasium Neustadt/Wstr.
1983-1988	Ruprecht-Karls-Universität Heidelberg
1987-1988	University of Southern California Los Angeles CA
1988-1991	Philipps-Universität Marburg/Lahn
1991-1992	Harvard University Cambridge MA

Exams [Grade; 1 $\hat{=}$ A]

21.06.1983	Abitur	[1,0]
17.10.1985	Vordiplom	[1,0]
15.08.1988	Diplom (Dipl. Chem.)	[with distinction]
11.07.1991	Ph.D. (Dr. rer. nat.)	[summa cum laude]

Scientific Background

09/87-07/88 Diplomarbeit (Prof. Dr. G.A. Olah)

Friedel-Crafts silylation reactions of aromatic compounds (benzene, toluene and ferrocene) in the presence of proton scavengers; redistribution reactions on chlorosilanes under Lewis acid catalysis; silyl transfer to ferrocenes; NMR-studies of silylated aromatics in super acids.

10/88-07/91 Ph.D. Thesis (Prof. Dr. M.T. Reetz)

Design of chiral Lewis acids for catalytic enantioselective C-C bond forming reactions (Diels-Alder reaction, Mukaiyama aldol reaction, formation of cyanohydrins with TMSCN); organometallic chemistry of cationic iron complexes; preparation of new covalent iron tin compounds; coordination chemistry of zinc containing peptide complexes.

08/91-07/92 Postdoctoral Work (Prof. Dr. D.A. Evans)

Convergent total synthesis of diphthine; Pd-catalyzed coupling reactions (Heck-, Stille-, Hagihara-, Negishi-type coupling) of histidine derivatives; selective C(2)-functionalization of protected histidines; reactions of imidazole heterocycles (metallation, electrophilic substitution, halogenation); preparation of functionalized alkylzinc reagents.

09/92-11/96 Habilitation (Prof. Dr. D. Hoppe)

Stereoselective C-C bond formation by photochemical reactions; Paterno-Büchi reactions of functionalized alkenes; regioselective ring opening of oxetanes; application of this methodology to the synthesis of natural products; new catalytic reactions.

01/97- Current Research Interests

Photochemistry: Enantioselective photochemical reactions in solution; deracemization by chiral sensitizers; photochemical activation of small molecules; design and development of new UV-A absorbers, fluorophores, and dyes; catalysis of photochemical reactions by Lewis acids and Cu salts; inter- and intramolecular photocycloaddition reactions of enones and arenes.

Synthesis: Total synthesis of natural products (polyketides, alkaloids, terpenes, peptides) and of biologically active compounds (antibiotics, antipsychotics, immunosuppressants, anticancer agents); elucidation of structure-activity relationships by synthesis; lead discovery in collaboration with industrial and academic partners.

Catalysis: Regioselective Pd-catalyzed cross-coupling reactions on heterocycles; new catalytic methods for stereoselective nitrogen transfer; development and synthesis of new chiral ligands; stereoselectivity of reactions involving carbenium ions as intermediates; C-H activation reactions at sp^3 and sp^2 centers; hydrogen bond-directed transition metal catalysis.

Further Information

Scholarships and Awards

04/84-08/88	Begabtenstipendium Konrad-Adenauer-Stiftung, St. Augustin
08/87-07/88	Auslandsstipendium Konrad-Adenauer-Stiftung, St. Augustin
08/87	Dr. Sophie-Bernthsen-Preis Dr. Sophie-Bernthsen-Stiftung, Heidelberg
04/88-10/88	Graduate Fellowship University of Southern California, Los Angeles
10/88-12/88	Graduiertenkolleg Fellowship GK 'Metallorganische Chemie', Marburg
01/89-12/90	Kekulé Fellowship Fonds der Chemischen Industrie, Frankfurt/Main
07/91	Studienabschluß-Stipendium Fonds der Chemischen Industrie, Frankfurt/Main
08/91-07/92	NATO Fellowship Deutscher Akademischer Austauschdienst, Bonn
03/96	ADUC-Jahrespreis für Habilitanden 1995 (Award for promising young scientists in academia)
05/96	Visiting Professor at the University of Helsinki Center for International Mobility, Helsinki
03/97	Dozentenstipendium Fonds der Chemischen Industrie, Frankfurt/Main
11/99	Visiting Professor at Kyoto University Kyoto University Foundation, Kyoto
11/01	AstraZeneca Research Award for Organic Chemistry AstraZeneca Pharmaceuticals, Alderley Park
12/03	Novartis European Young Investigator Award Novartis Pharma AG, Basel
04/06	Elected Member of the German Academy of Sciences Leopoldina, Halle (Saale)
06/06	Degussa Award for Chirality in Chemistry Degussa AG, Düsseldorf
02/09	Elected Member of the Bavarian Academy of Sciences, München
08/14	Reinhart Koselleck Project Deutsche Forschungsgemeinschaft, Bonn
05/15	ERC Advanced Grant European Research Council, Brussels

03/16	JSPS Fellowship Japan Society for the Promotion of Science
03/17	Horst Pracejus Prize Gesellschaft Deutscher Chemiker (GDCh)
09/18	Emil Fischer Medal Gesellschaft Deutscher Chemiker (GDCh)
03/20	Gottfried Wilhelm Leibniz Award Deutsche Forschungsgemeinschaft, Bonn
08/23	Arthur C. Cope Scholar Award American Chemical Society (ACS)
06/24	ERC Advanced Grant European Research Council, Brussels
02/25	Ryoji Noyori Prize 2024 Society of Synthetic Organic Chemistry in Japan

Professional Experience

02/84-04/84	Industrial Assignment BASF AG, Ludwigshafen/Rhein
04/88-10/88	Research Assistant University of Southern California, Los Angeles
01/91-08/91	Research Assistant Philipps-Universität, Marburg
09/92-08/93	Research Assistant Wilhelms-Universität, Münster
09/93-12/96	Assistant Professor Wilhelms-Universität, Münster
01/97-03/00	Associate Professor (C 3) Philipps-Universität, Marburg
01/98-12/16	Scientific Consultant BASF AG, Ludwigshafen/Rhein
04/00-	Full Professor (C 4/W 3) Technische Universität München
07/00-12/24	Regional Editor of <i>Synthesis</i> Thieme-Verlag, Stuttgart
01/09-12/18	Scientific Consultant Sandoz GmbH, Kundl
01/09-	Expert Reviewer Federal Court of Justice (BGH), Karlsruhe
01/10-	Affiliated Member Catalysis Research Center, TU München

07/21-	Spokesperson Collaborative Research Center 325, DFG
01/24-	Scientific Co-Director Catalysis Research Center, TU München

Memberships and Other Activities

01/86-	Gesellschaft Deutscher Chemiker
09/88-12/20	Chemische Gesellschaft zu Heidelberg
10/88-04/91	Student Board Member Graduate College 'Metallorganische Chemie'
01/97-	Deutscher Hochschulverband
03/99-	American Chemical Society
10/01-	Advisory Board Bicoll GmbH, Munich/Shanghai
01/03-	Hans-Fischer-Gesellschaft, München
10/03-09/06	Vice-Dean, Chemistry Department Technische Universität München
01/04-	Bund der Freunde der TU München
01/04-12/07	Executive Board Liebig-Vereinigung für Organische Chemie (GDCh)
02/05-11/13	Selection Committee Postdoctoral Fellowships Alexander von Humboldt-Stiftung, Bonn
10/06-09/09	Dean, Chemistry Department Technische Universität München
01/08-12/12	Scientific Board Katholische Akademie in Bayern, München
01/10-04/19	Vice-Chairman Graduate College 'Chemical Photocatalysis'
04/10-03/20	Selection Panel (<i>Fachkollegium</i>) Deutsche Forschungsgemeinschaft, Bonn
01/14-	Scientific Advisory Board Fachbereich Chemie, Philipps-Universität, Marburg
01/16-	Affiliated Member Institute of Advanced Study, TU München
01/19-	Selection Committee Humboldt Research Awards Alexander von Humboldt-Stiftung, Bonn

Lectures, Named Lectureships (Selection)

>400 invited lectures at research institutions and scientific symposia worldwide

05/03	Novartis Lectureship Bratislava, Prag, Budapest
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05/07	Feutrill Memorial Lecture Melbourne University, Melbourne
04/09	Boehringer Ingelheim Lectureship Montréal, Laval, Toronto
10/14	Honda-Fujishima Lectureship Sapporo; Japanese Photochemistry Association (JPA)
04/16	Jerome A. Berson Lecture Yale University, New Haven
10/16	33 rd Yangtze Lectureship Wuhan University, Wuhan
09/19	Victor J. Chambers Lectureship University of Rochester, Rochester
09/22	Theodor Förster Memorial Lectureship Düsseldorf; Photochemistry Section of the GDCh
10/23	Adolf Lieben Lectureship Austrian Chemical Society (GÖCh)
09/24	Jack Crandall Lectureship Indiana University, Bloomington
10/24	Hilmar Johannes Backer Lecture University of Groningen, Groningen