

Prof. Dr. Martin U. Schmidt

Institute of Inorganic and Analytical Chemistry
Goethe-University
Max-von-Laue-Str. 7
D-60438 Frankfurt am Main
Germany

Telephone: +49 (0) 69 798 29171
Fax: +49 (0) 69 798 29235
E-mail: m.schmidt@chemie.uni-frankfurt.de

Professional Career

1984-1991: M.Sc. (Diplom) in Chemistry at the University RWTH Aachen with parallel enrollment in the physics curriculum. Thesis title "Geometrical shape of molecules in the solid state" (Geometrische Formen von Molekülen im Festkörper).

1991-1994: PhD at the Institute of Inorganic Chemistry at the University RWTH Aachen. Thesis title "Crystal structure calculations on organometallic molecular compounds" (Kristallstrukturberechnungen metallorganischer Molekülverbindungen). During this time funded by the German Student Foundation ("Studienstiftung des Deutschen Volkes").

1995-2002: Head of the Laboratory for Crystal Engineering and Polymorphism Studies at Hoechst AG (since 1997: Clariant GmbH) in Frankfurt am Main.

Research topics:

Crystal structures and properties of organic pigments, including

- Prediction of crystal structures
- Structure-property relationships on organic pigments
- Crystal Engineering (Targeted synthesis of pigments based on the knowledge of the crystal structures)
- Crystal structure determination from X-ray powder diffraction data
- Synthesis and development of new pigments with improved properties
- Crystallization and polymorph screening

1998-2002: (In addition to the work at Clariant) University Teacher for crystallography at the Goethe-University in Frankfurt

Since 2002: University Professor for Solid-State Chemistry at the Institute of Inorganic and Analytical Chemistry of the Goethe-University in Frankfurt

Research Topics

Crystallography of (nanocrystalline) organic compounds, esp. pharmaceutical compounds and organic pigments, including:

- Crystal structure determination from powder diffraction data, including development of new methods
- Investigation of local structures of nanocrystalline organic compounds by means of the pair distribution function (PDF)

- Calculation and prediction of crystal structures of molecular compounds, including program development (CRYSCA/QuantumCrysca)
- Structure-property relationship on organic compounds
- Crystal engineering
- Modelling of the absorption of organic trace compounds on ice
- Crystallisation of organic pigments and other poorly crystalline compounds
- Polymorph screening
- Lattice-energy calculations on disordered compounds in order to investigate and explain their structures
- Measurement of X-ray powder diagrams
- Determination of storage stabilities for pharmaceutical compounds

Positions in Scientific Societies and Commissions

- 2003 - 2012: Head of the regional section (with 1435 members) of the German Chemists' Society (GDCh)
- Since 2002: Member of the commission for student affairs of the Chemical Institutes of the Goethe University
- 2007 - 2012: Member of the commission for student affairs of the Goethe-University

Memberships:

- German Crystallographic Society (DGK)
- European Crystallographic Association (ECA)
- German Chemists' Society (GDCh)
- German University Professors' Association (DHV)
- Association of Scientists in the Chemical Industry (VAA)

Referee for the German Science Foundation and the Swiss National Fond

Referee for about 15 international journals, including Angewandte Chemie, Acta Cryst., Z. Krist., CrystEngComm, Crystal Growth&Design etc.

Awards

- 1) Springorum-Medal of the Friends of the University RWTH Aachen (for a Diploma exam with the highest possible grade (excellent))
- 2) Borchers-Medal of the Friends of the University RWTH Aachen (for a PhD thesis with the highest possible grade (excellent))
- 3) Award of the International School of Crystallography: "Implications of Molecular and Materials Structure for New Technologies", Erice/Italy, 28 Mai to 7 June 1998
- 4) CCDC Poster Prize in Chemical Crystallography of the Cambridge Crystallographic Data Centre, 20th European Crystallographic Meeting, Kraków, 25 - 31 August 2001
- 5) Award for Excellent Teaching of the Department of Biochemistry, Chemistry and Pharmacy of the Goethe-University, 2010

6) Award for Excellent Teaching of the Department of Biochemistry, Chemistry and Pharmacy of the Goethe-University, 2012