

Nils E. R. Zimmermann

Contact

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Personal

Born on May, 24 1979, in Buchholz in der Nordheide.

Unmarried.

German Citizen.

Education

Ph.D. Chemical Engineering, Hamburg University of Technology, Germany, *expected* fall 2011.

M.Sc. Chemical Engineering, Hamburg University of Technology (1.4), Germany, June 2006.

ERASMUS exchange studies, Royal Institute of Technology, Stockholm, Sweden, Summer/Fall 2004.

B.Sc. General Engineering Science, Hamburg University of Technology (1.7), Germany, July 2003.

High School Diploma (1.4), Gymnasium Neu Wulmstorf, Germany, July 1998.

(Grade scale: 1.0 best, 4.0 worst but passed)

Research Interests

Diffusion in and through nanoporous materials.

Molecular modelling techniques.

Research Experience

MolSim, Department of Chemical Engineering, University of California, Berkeley, USA

Collaboration, Prof. Dr. Berend Smit, September–November 2008.

Institute for Chemical Reaction Engineering, Hamburg University of Technology, Germany

Research Fellow, Prof. Dr. Dr. h.c. Frerich J. Keil, since November 2007.

Centre Européen Atomique et Moléculaire (CECAM), Ecole Normale Supérieure Lyon, France

Research Fellow, Prof. Dr. Berend Smit, August 2006–September 2007.

Van't Hoff Institute for Molecular Science, University of Amsterdam, The Netherlands

Collaborating with institute during Master Thesis, Prof. Dr. Berend Smit, December 2005–May 2006.

Stockholm Vatten AB, Stockholm, Sweden

Industry Research Internship, Dr. Daniel Hellström, January 2005–August 2005.

Hamburg University of Technology, Germany

Student Research Assistant, Prof. Dr. Dr. h.c. Frerich J. Keil, Summer 2006 & Summer 2005,

Project work, Prof. Dr. Dipl.-Ing. Jobst Hapke, Summer 2004,

Project work, Prof. Dr. Dipl.-Ing. Lutz Friedel, Winter 2003, and

Student Research Assistant, Prof. Dr. Dipl.-Ing. Lutz Friedel, June 2003–May 2004.

Current Projects

“The influence of surface barriers on the permeation of small linear alkanes through one-dimensional zeolite pores.”

“Modelling permeation of methanol into an NaX-zeolite membrane,” cooperation with the Dr. S. Fritzsche from the University Leipzig.

Papers

“In-Depth Study of the Influence of Host-Framework Flexibility on the Diffusion of Small Gas Molecules in One-Dimensional Zeolitic Pore Systems,” with S. Jakobtorweihen, E. Beerdsen, B. Smit, and F. J. Keil, *J. Phys. Chem. C*, 111, 17370–17381 (2007).

“Path Sampling Calculation of Methane Diffusivity in Natural Gas Hydrates from a Water-Vacancy Assisted Mechanism,” with B. Peters, G. T. Beckham, J. W. Tester, and B. L. Trout, *J. Am. Chem. Soc.*, 130, 17342–17350 (2008).

“On the Effects of the External Surface on the Equilibrium Transport in Zeolite Membranes,” with B. Smit, and F. J. Keil, *submitted to J. Phys. Chem. C*.

Conferences & Workshops

“The Influence of Surface Barriers on Diffusion of Alkane-Zeolite Systems – a Molecular Dynamics Study,” with F. J. Keil, *AIChE Annual Meeting*, November 16–21, 2008, Philadelphia, USA.

Honors & Awards

Research Fellowship, Marie Curie Early Stage Research Training, 2006.

Teaching Experience

Institute for Chemical Reaction Engineering, Hamburg University of Technology, Germany

Instructor, Laboratory course “Chemical Engineering”, spring 2008, and spring 2009.

Centre Européen Atomique et Moléculaire (CECAM), Ecole Normale Supérieure Lyon, France

Tutor, Understanding Molecular Simulations tutorial, January 2007.

Computer Skills

Programming languages: C, Fortran, Java, Perl, Linux shell.

Operating systems: Linux, Windows.

Mathematics: Matlab.

Other: vmd, $\text{T}_{\text{E}}\text{X}$, $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$, Office programs, Xfig, gnuplot, gimp.

Languages

German: mother tongue

English: fluently

Swedish: fluently

French: advanced

Various Activities

Organization of the weekly group meetings at the CECAM, 2006–2007.

Tutor of foreign exchange students at Hamburg University of Technology, Winter 2003/2004.

Steadily working in the parental business (hotel-restaurant), 1993–2004.
