

# Curriculum Vitae

## Professor Dr.-Ing. Kai Sundmacher

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and

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### Personal Dates

Birth: 24 March 1965 in Hildesheim, Germany  
Nationality: German

### School Education

1971 - 1975 Elementary school in Diekholzen  
1975 - 1984 Classical secondary school (Gymnasium Andreanum) in Hildesheim  
06/1984 School leaving examination (Mark: „with distinction“, 1.0)

### Studies

10/1984 - 09/1986 Pre-Diploma studies in Mechanical Engineering, University of Hannover  
10/1986 - 12/1990 Diploma studies in Chemical and Process Engineering, Technical University Clausthal, Special Fields of Studies: Reaction Engineering, Separation Engineering, Process Simulation, Fluid Dynamics

- 06/1990 - 12/1990 Diploma thesis preparation at the Institute for Technical Chemistry of the Technical University Braunschweig, Title in translation: „Importance of irreversible thermodynamics for hetero-geneously catalyzed liquid phase reactions exemplified by synthesis of methyl.-tert.-butylether“
- 12/1990 Diploma Engineer in Process Engineering (Mark: "with distinction")

### **Course of Scientific Career**

- 12/1990 - 03/1995 Scientific Coworker and Ph.D. student at Institute for Chemical Reaction Engineering, Technical University Clausthal, Supervisor: Professor Dr.-Ing. Ulrich Hoffmann
- 03/1995 Ph.D. degree (Doktor-Ingenieur) in Process Engineering (Mark: „with distinction“); Dissertation title: „Reactive distillation with catalytically active random packings – a new process for the production of the fuel component MTBE“
- 04/1995 - 09/1998 Scientific head of research groups „Reactive Distillation“ and „Electrochemical Reaction Engineering“ at Institute for Chemical Reaction Engineering, Technical University Clausthal
- 10/1997 - 04/1998 Postdoctoral researcher at Department of Chemical and Process Engineering, University of Newcastle, Newcastle upon Tyne, Great Britain; Research project: „Direct methanol polymer electrolyte fuel cell (DMFC)“
- 07/1998 Habilitation degree (Dr.-Ing. habil.) at Technical University Clausthal, Venia legendi: „Chemical and Separational Process Engineering“
- since 10/1998 Head of research group „Physical and Chemical Process Engineering“ at Max-Planck-Institut für Dynamik komplexer technischer Systeme, Magdeburg
- since 10/1999 Full Professor (C4) for Process Systems Engineering at Otto-von-Guericke-Universität in Magdeburg, Faculty for Process and Systems Engineering
- since 07/2001 Director and Scientific Member at the Max-Planck-Institut für Dynamik komplexer technischer Systeme, Magdeburg
- 01/2003 – 12/2004 Managing Director of the Max-Planck-Institut für Dynamik komplexer technischer Systeme, Magdeburg
- 01/2005 – 12/2006 Managing Director of Institute for Process Engineering at Otto-von-Guericke-Universität Magdeburg
- since 04/2005 Member of the Research Committee at Otto-von-Guericke-Universität Magdeburg

### **Scholarships and Awards**

- 1984 First Prize in Chemistry during German National Research Competition („Jugend forscht“)
- 03/1985 - 11/1990 Scholar of the German Scholarship Foundation (Studienstiftung)

1990	Hilpert-Award for best Diploma thesis in Chemistry, Technical University Braunschweig
1995	Award for best Ph.D. Thesis, Technical University Clausthal
1997	Fluid Separation Processes Group Prize, Institution of Chemical Engineers, Great Britain
10/1997 - 04/1998	Scholar of the Germany Academic Exchange Service (DAAD) during postdoctoral research at the Department of Chemical and Process Engineering, University of Newcastle, Great Britain
1998	Carl-Zerbe Award from German Scientific Society of Petrochemistry (DGMK, Hamburg)
1999	Arnold-Eucken Award from German Society of Chemical Engineers (GVC / VDI-Gesellschaft Verfahrenstechnik und Chemieingenieurwesen, Düsseldorf)

### Referee Activities

- Referee for various national and international funding organisations (DFG, AiF, BMBF in Germany, EPSRC in Great Britain, NOW in the Netherlands, GIF in Israel)
- Referee for peer-reviewed journals (AIChE Journal, Chem. Eng. Science, Chemical Eng. Journal, Industrial & Engineering Chem. Research, Chemical Eng. and Process., Fuel Cells, J. Applied Electrochemistry, J. Electrochem. Soc., Langmuir, etc.)
- Member of the selection committee of German Scholarship Foundation (Studienstiftung)

### Selected Memberships

- Executive editorial board of "Chemical Engineering Science" (Elsevier)
- Advisory board of "Chemical Engineering and Processing" (Elsevier)
- Advisory board of "Chemical Engineering and Technology" (Wiley)
- Advisory board of ISCRE (Int. Symp. Chemical Reaction Engineering)
- Conference Chair of GAFOE 2008, GAFOE 2009 (German American Frontiers in Eng.)
- Research advisory board of DECHEMA and Karl-Winnacker-Institute, Frankfurt/M.)
- Appointed member of Chemical Reaction Engineering working party at ProcessNet
- Appointed member of Electrochemical Engineering working party at DECHEMA
- Advisory panel of "Foresight Process" by German Ministry of Research (BMBF)
- Personal member of American Institute of Chemical Engineers (AIChE), German Society of Chemical Engineers (GVC/VDI), DECHEMA, German Scientific Society of Petrochemistry (DGMK)
- Chairman of Fuel Cell Systems working party of German Competence Network Pro3
- Scientific advisory board member at Tongji University
- Scientific advisory board member at East China University of Science and Technology

### Research Interests

Fundamentals of experimental and model-based process development and analysis with special focus on the following applications:

- Integrated processes and multifunctional reactors
- Fuel cell systems
- Electrochemical membrane reactors
- Emulsion-assisted processes for nanoparticle synthesis