Johannes M. Nitsche
Curriculum Vitae

Present position, address and contact information

Professor of Chemical Engineering
SUNY Distinguished Teaching Professor

Department of Chemical and Biological Engineering, Furnas Hall
University at Buffalo, The State University of New York Buffalo,
New York 14260–4200

Tel. (716) 645-1182
Fax: (716) 645-3822
E-mail: nitsche@buffalo.edu

Areas of activity in research and teaching

- Mechanistic modeling of biological transport processes in the areas of skin, phospholipid membrane and biological pore permeability, with applications to topical and transdermal drug development and risk assessment of chemical exposures. ■ Mechanistic modeling of physicochemical binding processes that immobilize molecules and affect their transport rates in biological tissues. ■ Fluid mechanics and transport phenomena; molecular diffusion in pores and microstructured materials; multiscale modeling, theory of homogenization/coarse graining; applied mathematics.
- Senior capstone design experience, chemical process and plant design, exposure to industrial reality; cohesion and unification of curriculum through spiral learning. ■ Fluid mechanics, mass transfer, biological transport processes. ■ Mathematics and computation for chemical engineers. ■ Undergraduate and graduate core courses and curriculum.

Academic degrees

June 1989 Doctor of Philosophy in Chemical Engineering
Massachusetts Institute of Technology

June 1984 Bachelor of Chemical Engineering (with High Distinction)
University of Minnesota

June 1984 Bachelor of Mathematics (with High Distinction)
University of Minnesota

Present position and professional experience

January – May 2022: Visiting Professor, Davidson School of Chemical Engineering, Purdue University, West Lafayette, IN.