

Dr. Ingo Hoffmann

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## ***Professional Experience***

Since 01/2018 IN15 1<sup>st</sup> Instrument Responsible

SS 2017 Guest lecturer (Gastdozent) at Technischen Universität Berlin (TUB)

Since 09/2015 Instrument responsible for the neutron spin-echo spectrometer IN15 at Institut Laue-Langevin

2011-09/2015 Post-Doc at Institut Laue-Langevin (ILL) in cooperation with TU Berlin (Prof. M. Gradzielski) working on the upgrade project for the neutron spin-echo spectrometer IN15

## ***Education***

2007-2011 Degree: Dr. rer. nat. (PhD) (Technische Universität Berlin)  
Thesis under the supervision of Prof. M. Gradzielski: „Aggregations- und Adsorptionsverhalten von Polymer-Tensidmischungen“ („Aggregation and Adsorption Behaviour of Polymer-Surfactant Mixtures“).

2002-2007 Degree: Diplom Chemiker (MS) (Technische Universität Berlin)  
Diploma thesis under the supervision of Prof. M. Gradzielski: „Selbstaggregation von Mischungen aus Tensiden und Polymeren und deren Solubilisationsverhalten“ („Self-Aggregation of Mixtures of Surfactants and Polymers and their Solubilisation Behaviour“)

## ***Awards***

Förderpreis im Bereich der Grundlagenforschung bei Wasch- und Reinigungsmitteln der Fachgruppe Chemie des Waschens 2011 (Thesis Award of the Washing Chemistry Group of the GdCh 2011)

## ***Teaching Experience***

- Supervision of the internship of Rahel Marschall (ILL, 2018)

- ILL supervisor of the PhD thesis of Giuseppe Del Sorbo (ILL/MPIKG Potsdam, since 2017)
- Lecturer (Gastdozent) at TUB during summer semester 2017
- Reviewer for the PhD defense of Jana Hajduová (Charles University, Prague, 2016)
- Supervision of the internship of Pietro Vahramian (ILL, 2016)
- Supervision of the internship of Abhijit Fulkar (ILL, 2016)
- Co-Supervision of the internship of Benedikt Sohmen (ILL, 2015)
- Co-Supervision of the PhD thesis of Philipp Buchhold (defended in 09/2017, ILL/TU Berlin)
- Co-Supervision of the Masters thesis of Miriam Simon (Investigations of the Interactions of Polyelectrolytes with Oppositely Charged Microemulsion Droplets, TU Berlin)
- Supervision of student labs during PhD

### ***Fund Raising***

- Prolongation of the BMBF upgrade project for IN15 „Sample environment and parallel characterisation for extreme precision neutron spin echo experiments on complex soft-matter systems“
- Proposer for numerous beam times at ILL, Grenoble, Helmholtz Zentrum Berlin (HZB), Heinz Maier-Leibnitz Zentrum (MLZ) Garching and NIST Center for Neutron Research (NCNR) Gaithersburg

### ***Research Visits***

- Universita degli Studi Palermo, Prof. S. Milioto (2007)
- University of Delaware, Prof. Norman J. Wagner (2008, 2009)
- Charles-University Prague, Prof. Karel Procházka (2010)

### ***Language Skills***

- German
- English
- French

### ***Computer Skills and Programming Languages***

- C++, Igor Pro, Python
- Latex, MS Office, Blender

## **Publications**

[1] I. Hoffmann, P. Heunemann, S. Prévost, R. Schweins, N. J. Wagner, M. Gradzielski: Self-Aggregation of Mixtures of Oppositely Charged Polyelectrolytes and Surfactants Studied by Rheology, Dynamic Light Scattering and Small-Angle Neutron Scattering: *Langmuir*, **2011**, *27*, 4386-4396

[2] I. Hoffmann, S. Prévost, M. Medebach, S. E. Rogers, N. J. Wagner, M. Gradzielski: Control of Rheological Behaviour with Oppositely Charged Polyelectrolyte Surfactant Mixtures, *Tenside, Surfactants, Deterg.*, **2011**, *48*, 488-494

[3] P. Thareja, I. H. Hoffmann, M. W. Liberatore, M. E. Helgeson, Y. T. Hu, M. Gradzielski, N. J. Wagner: Shear-induced phase separation (SIPS) with shear banding in solutions of cationic surfactant and salt, *J. Rheol.*, **2011**, *55*, 1375-1397

[4] B. Altin, A. Barth, K. Bressel, L. Chiappisi, M. Duerr, M. Dzionara, M. Elgammal, D. Fliegner, C. Ganas, S. Gupta, G. Hedicke, P. Heunemann, I. Hoffmann, R. Joksimovic, R. Kaur, A. Klee, H.-Y. Liu, J. Lutzki, P. Malo de Molina, M. Medebach, R. Michel, M. Muthig, V. Nguyen-Kim, C. Oppel, S. Prévost, J. Popig, S. Riemer, M. Sperling, R. Strassnick, L. Zhang, M. Gradzielski: Investigations in the Stranski-Laboratorium of the TU Berlin - Physical Chemistry of Colloidal Systems - Going Towards Complexity and Functionality, *Tenside Surfactants Deterg.*, **2012**, *49*, 256-265

[5] I. Hoffmann, C. Oppel, S. Prévost, U. Gernert, P. Barreleiro, W. von Rybinski, M. Gradzielski: The influence of polymers, surfactants and salt on the fine structure of cotton revealed by SANS, *Coll. Surf., B*, **2012**, *91*, 175-180

[6] I. Hoffmann, C. Oppel, U. Gernert, P. Barreleiro, W. von Rybinski, M. Gradzielski: Adsorption Isotherms of Cellulose-Based Polymers onto Cotton Fibers Determined by Means of a Direct Method of Fluorescence Spectroscopy: *Langmuir*, **2012**, *28*, 7695-7703

- [7] I. Hoffmann, M. Theile, S. Grätz, J. Scholz, P. Barreleiro, W. von Rybinski, M. Gradzielski: On the Influence of Surfactants on the Adsorption of Polysaccharide-Based Polymers on Cotton Studied by Means of Fluorescence Spectroscopy: *Langmuir*, **2012**, 28, 11400-11409
- [8] I. Hoffmann, P. Heunemann, B. Farago, I. Grillo, O. Holderer, M. Päch, M. Gradzielski: Structure and dynamics of nanoemulsions: Insights from combining dynamic and static neutron scattering: *Phys. Rev. E*, **2012**, 86, 061407
- [9] L. Chiappisi, I. Hoffmann, M. Gradzielski: Complexes of oppositely charged polyelectrolytes and surfactants - recent developments in the field of biologically derived polyelectrolytes: *Soft Matter*, **2013**, 9, 3896-3909
- [10] I. Hoffmann, B. Farago, R. Schweins, P. Falus, M. Sharp, M. Gradzielski: Structure and Dynamics of Polyelectrolytes in Viscous Polyelectrolyte-Surfactant Complexes at the Mesoscale: *Europhys. Lett.*, **2013**, 104, 28001
- [11] I. Hoffmann, P. Malo de Molina, B. Farago, P. Falus, C. Herfurth, A. Laschewsky, M. Gradzielski: Dynamics of Microemulsions Bridged with Hydrophobically End-capped Star Polymers Studied by Neutron Spin-Echo, *J. Chem. Phys.*, **2014**, 140, 034902
- [12] I. Hoffmann, R. Michel, M. Sharp, O. Holderer, M.-S. Appavou, F. Polzer, B. Farago, M. Gradzielski: Softening of Phospholipid Membranes by the Adhesion of Silica Nanoparticles - As Seen by Neutron Spin-Echo (NSE). *Nanoscale*, **2014**, 6, 6945-6952
- [13] I. Hoffmann: Neutrons for the study of dynamics in soft matter systems. *Colloid Polym. Sci.*, **2014**, 292, 2053-2069
- [14] B. Farago, P. Falus, I. Hoffmann, M. Gradzielski, F. Thomas, C. Gomez: The IN15 upgrade, *Neutron News*, **2015**, 26, 3, 15-17

- [15] I. Hoffmann, B. Farago, R. Schweins, P. Falus, M. Sharp, S. Prévost, M. Gradzielski: On the mesoscopic origins of high viscosities in some polyelectrolyte-surfactant mixtures, *J. Chem. Phys.*, **2015**, *143*, 074902
- [16] I. Hoffmann, M. Simon, B. Farago, R. Schweins, M. Sharp, O. Holderer, M. Gradzielski: Structure and Dynamics of Polyelectrolyte Surfactant Mixtures under Conditions of Surfactant Excess, *J. Chem. Phys.*, **2016**, *145*, 124901
- [17] I. Hoffmann, M. Simon, A. Hörmann, T. Gravert, S. E. Rogers, M. Gradzielski: Kinetics of Oil Exchange in Nanoemulsions prepared with the PIC Method, *Langmuir*, **2016**, *32*, 12084
- [18] E. N. Kitiri, C. S. Patrickios, C. Voutouri, T. Stylianopoulos, I. Hoffmann, M. Gradzielski: Synthesis and Characterization of Double-networks Based on pH-responsive Amphiphilic “Core-first” Star First Conetworks Prepared by Sequential RAFT Polymerization, *Polym. Chem.*, **2017**, *7*, 245-259
- [19] S. R. MacEwan, I. Weitzhandler, I. Hoffmann, J. Genzer, M. Gradzielski, A. Chilkoti: Phase behavior and self-assembly of perfectly sequence-defined and monodisperse multi-block copolypeptides, *Biomacromolecules*, **2017**, *18*, 599-609
- [20] M. K. Braun, M. Grimaldo, F. Roosen-Runge, I. Hoffmann, O. Czakkel, M. Sztucki, F. Zhang, F. Schreiber, T. Seydel: Crowding-controlled cluster size in concentrated aqueous protein solutions: Structure, self- and collective diffusion, *J. Phys. Chem. Lett.*, **2017**, *8*, 2590-2596
- [21] I. Weitzhandler, M. Dzuricky, I. Hoffmann, F. Garcia Quiroz, M. Gradzielski, A. Chilkoti: Micellar Self-Assembly of Recombinant Resilin-/Elastin-Like Block Copolypeptides, *Biomacromolecules*, **2017**, *18*, 2419-2426

- [22] E. N. Kitiri, C. K. Varnava, C. S. Patrickios, C. Voutouri, T. Stylianopoulos, M. Gradzielski, I. Hoffmann: Double-networks based on interconnected amphiphilic “in-out” star first polymer conetworks prepared by RAFT polymerization, *J. Polym. Sci. A: Polym. Chem.*, **2018**, *56*, 2161-2174
- [23] I. Hoffmann, C. Hoffmann, B. Farago, S. Prévost, M. Gradzielski: Dynamics of small unilamellar vesicles, *J. Chem. Phys.*, **2018**, *148*, 104901
- [24] M. Gradzielski, I. Hoffmann: Polyelectrolyte-surfactant complexes (PESCs) composed of oppositely charged components, *Curr. Opin. Coll. Int. Sci.*, **2018**, *35*, 124-141
- [25] K. Ciepluch, A. Radulescu, I. Hoffmann, A. Raba, J. Allgaier, D. Richter, R. Biehl: Influence of PEGylation on Domain Dynamics of Phosphoglycerate Kinase: PEG Acts Like Entropic Spring for the Protein, *Bioconjugate Chem.*, **2018**, *29*, 1950-1960
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- [28] P. Malo de Molina, A. Alegría, J. Allgaier, M. Kruteva, I. Hoffmann, S. Prévost, M. Monkenbusch, D. Richter, A. Arbe, J. Colmenero: Observing Time-Dependent Constraint-Release Effects in Entangled Binary Polymer Blends: A Combination of Neutron Scattering and Dielectric Techniques, *Phys. Rev. Lett.*, **2019**, *123*, 187802
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- [43] Del Sorbo, G. R.; Cristiglio, V.; Clemens, D.; Hoffmann, I. & Schneck, E. Influence of the Surfactant Tail Length on the Viscosity of Oppositely Charged Polyelectrolyte/Surfactant Complexes Macromolecules, **2021**, *54*, 2529-2540
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