

Jens Gaitzsch, PhD

Leibniz-Institut für Polymerforschung Dresden e.V. (IPF Dresden)

Education

- 10/2009-03/2013 **PhD, Polymer Chemistry** at the Leibniz Institute of Polymer Research Dresden
Grade: 1.0 / summa cum laude.
Supervision by: Prof. Brigitte Voit and Prof. Petra Schwille
Title: *Synthesis of Photo Cross-linked and pH Sensitive Polymersomes and Applications in Synthetic Biology*
- 10/2006-07/2009 **Diploma, Chemistry** at the Technical University of Dresden.
Focus on polymer chemistry, biochemistry und organic chemistry.
Final Thesis was supervised by Prof. Peter Metz; Grade: 1.0
Title: *Synthesis and utilisation of 1,3-Dienic- δ -Sultones*

Work Positions

- Since 07/2019 **Senior Scientist, Leibniz Institute for Polymer Research Dresden**
Main Topics: Radical Ring-Opening Polymerisation, Smart Hydrogels, pH sensitive and cross-linked polymersomes
- 01/2019-12/2019 **Independent Research Fellow, University of Basel**
Main Topic: Radical ring-opening polymerisation for the synthesis of functional and biodegradable polyesters and polyamides
- 09/2015-12/2018 **Senior Postdoc, University of Basel** Group of W. Meier
Collaborations with J. Anderson, C. Palivan and D. Fotiadis
Main Topics: Radical ring-opening polymerisation, ABC block-copolymers for asymmetric membranes, Transmembrane proteins
- 06/2013-07/2015 **Postdoctoral fellow, University College London** Group of G. Battaglia
Collaborations with R. Luxenhofer, V. Chudasama and F. Du Prez
Main Topics: ABC Star-Terpolymers for polymersomes, Polypeptoids in the field of self-assembly
- 10/2009-03/2013 **PhD student, Leibniz Institute of Polymer Research Dresden**
Group of Brigitte Voit and research stays with P. Schwille and G. Battaglia
Synthesis and self-assembly of pH-responsive and photo cross-linked polymer vesicles with applications in biochemistry and biotechnology
- 10/2006-07/2009 **Student co-worker, Technical University of Dresden**
Synthesis of sultones, polymer synthesis, teaching in seminars

Stipends and Awards

- 01/2019-12/2019 Novartis-Universität Basel **Excellence Scholarship** for Life Sciences
04/2018 Winner of the Basel **FameLab** (Swiss semi-final) (Runner-up swiss final)
- 02/2014-07/2015 **Postdoc fellowship** of the DFG (German reseach council)
- 03/2014 **PhD prize** of the Leibniz Institute of Polymer Research Dresden
- 04/2010-03/2013 **PhD studentship** of the Rosa-Luxemburg Foundation
- 11/2009-03/2013 PhD student with the **Dresden International Graduate School for Biomedicine and Bioengineering (DIGS-BB)**
- 06/2011 and 11/2012 **Poster awards:** CRTD Summer Conference on Regenerative Medicine, Dresden und World Conference on Regenerative Medicine, Leipzig
- 10/2007-07/2009 **Studentship of the Rosa-Luxemburg Foundation**

Conferences and Public outreach

Conferences: 26 lectures und 24 posters at national and international conferences
Seminars: 11 invited talks for university seminars

Organisation: Organising committee of 5 national and international conferences in various roles
Outreach: Various demonstration of general chemistry, regular participation in public speaking events (Science Slams, Famelab), workshops on public speaking.

Teaching

Since 10/2020 **Lecture series** on Polymer Chemistry (BTU Cottbus-Senftenberg)
Since 03/2009 **Supervision of** Bachelor-, Master- and PhD students
Since 10/2019 **Lectures** within the GRK on "Hydrogel-based Microsystems" (TU Dresden)
Since 10/2019 **Lectures** on Synthesis of Polymer Materials (TU Dresden)
02/2017-06/2019 **Lecture series** on polymer chemistry (Uni Basel)
03/2016-06/2019 **Lectures and seminars** on physical chemistry (Uni Basel)
Physical chemistry I + II + „Soft Matter and Polymers“
01/2016-06/2019 **Lead of the teaching lab** on "Physical Chemistry" for chemists, biologists, pharmacists and nanoscientists (incl. error calculation)
03/2008-02/2014 **Assistant in teaching labs** (Dresden and London)
General chemistry (Biologists, 2nd year), Organic chemistry (Med students, 1st year, Chemists, 2nd and 3rd year)
10/2006-02/2009 **Seminars on general chemistry for engineers**

Board Memberships and Reviewing

Board of Directors, GRK 1865 "Hydrogel-based Microsystem" (DFG funded)
Academic Advisory Board of the Rosa-Luxemburg Foundation
Panel Member for PhD Fellowships for the Rosa-Luxemburg Foundation
Reviewing activities for multiple journals in polymer chemistry of various publishers
Reviewer activities of research grants for various organisations

Publications (selected):

Full List at Google-Scholar: BKAN9rIAAAJ (ID) **h-Index:** 15 **i-10-Index:** 21

Moreno, S.; Voit, B.; ***Gaitzsch, J.**, *The chemistry of cross-linked polymeric vesicles and their functionalization towards biocatalytic nanoreactors* Colloid Polym. Sci. **2020**, DOI: 10.1007/s00396-020-04681-w.

Daubian, D.; ***Gaitzsch, J.**; *Meier, W., *Synthesis and Complex Self-Assembly of Amphiphilic Block Copolymers with a Branched Hydrophobic Poly(2-oxazoline) into Multicompartment Micelles, Pseudo-Vesicles and Yolk/Shell Nanoparticles* Polym. Chem. **2020**, 11, 1237-1248.

Folini, J.; Murad, W.; Mehner, F.; Meier, W.; ***Gaitzsch, J.**, *Updating Radical Ring-Opening Polymerisation of Cyclic Ketene Acetals from Synthesis to Degradation* Eur. Polym. J. **2020**, 134, 109851.

Gaitzsch, J.; Hirschi, S.; Freimann, S.; Fotiadis, D.; Meier, W., *Directed Insertion of Light-Activated Proteorhodopsin into Asymmetric Polymersomes from an ABC Block Copolymer* Nano Lett. **2019**, 19, 2503-2508.

Folini, J.; Huang, C.-H.; Anderson, J. C.; Meier, W.; ***Gaitzsch, J.**, *Novel Monomers in Radical Ring-Opening Polymerisation for Biodegradable and pH Responsive Nanoparticles* Polym. Chem. **2019**, 10, 5285-5288.

***Gaitzsch, J.**; Welsch, P. C.; Folini, J.; Schoenenberger, C.-A.; Anderson, J. C.; Meier, W. P., *Revisiting Monomer Synthesis and Radical Ring Opening Polymerization of Dimethylated MDO Towards Biodegradable Nanoparticles for Enzymes* Eur. Polym. J. **2018**, 101, 113-119.

Konishcheva, E.; Daubian, D.; ***Gaitzsch, J.**; *Meier, W., *Synthesis of Linear ABC Triblock Copolymers and Their Self-Assembly in Solution* Helv. Chim. Acta **2018**, 101, e1700287.

***Gaitzsch, J.**; *Huang, X.; *Voit, B., *Engineering Functional Polymer Capsules toward Smart Nanoreactors* Chem. Rev. **2016**, 116, 1053–1093.

***Gaitzsch, J.**; *Chudasama, V.; Morecroft, E.; Messenger, L.; Battaglia, G., *Synthesis of an Amphiphilic Miktoarm Star Terpolymer for Self-Assembly into Patchy Polymersomes* ACS Macro Lett. **2016**, 5, 351-354.

Gaitzsch, J.; Appelhans, D.; Wang, L. G.; Battaglia, G.; *Voit, B., *Synthetic Bio-nanoreactor: Mechanical and Chemical Control of Polymersome Membrane Permeability* Angew. Chem., Int. Ed. **2012**, 51, 4448-4451.

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