Pierre Stallforth, PhD – *Curriculum Vitae*

Leibniz Institute for Natural Product Research
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Education and Research Experience

12/2013 –	Independent Junior Group Leader, **Leibniz Institute** for Natural Product Research and Infection Biology, (Hans Knöll Institute, HKI, Jena) Dept. of Chemistry of Microbial Communication On-going Habilitation in the Faculty of Chemistry
2/2011 – 11/2013	Postdoc, **Harvard Medical School**, Dept. of Biological Chemistry and Molecular Pharmacology, Boston. Mentor: Prof. Jon Clardy
11/2006 – 11/2010	Graduate Studies (Dr. sc. ETH Zurich), **ETH Zurich** and **Max Planck Institute**, Colloids and Interfaces, Biomolecular Systems, Berlin Supervisor: Prof. Peter H. Seeberger (co-supervisor: Prof. Donald Hilvert) "*Synthesis of Bacterial Carbohydrates and Glycolipids for Application in Novel Vaccine Strategies*"
09/2005 – 07/2006	Master Thesis, **University of Oxford,** Supervisor: Prof. David E. Logan (1st class)
10/2002 – 07/2006	MSc Studies Chemistry, St Edmund Hall, **University of Oxford** (1st class, being placed 2nd out of 150 students)

Fellowships, Awards, and Third Party Funding

02/2018	DECHEMA Research Award Natural Product Research
11/2018	medac Research Award
09/2018	Best Talk Prize, Bioorganic Symposium, Bochum 2018
07/2018	Max-Buchner-Stipend (DECHEMA)
06/2018	Boehringer Ingelheim Exploration Grant
03/2018	DFG Research Grant STA1431/3-1
08/2017	Best Talk Prize, International 2017 Dictyostelium Conference, Geneva
07/2017	DFG Research Grant STA1431/2-1
11/2016	medac Reserach Award
12/2015	Funding from the Fonds der Chemischen Industrie
12/2015	Funding from the Dr. Illing Foundation
02/2014	Fellowship of the Daimler and Benz Foundation
06/2012	Feodor Lynen-Postdoc Fellowship (A. v. Humboldt Foundation)
02/2011	Swiss National Fund Postdoc Fellowship
06/2007	PhD Fellowship, Studienstiftung (German Academic Merit Foundation)
06/2005	Gibbs Prize for excellence in the final examination
06/2005 – 07/2006	Fellowship of the Studienstiftung
2003 and 2004	Turbutt Prize for excellence in practical organic chemistry
06/2003 – 07/2006	University of Oxford, Open Scholarship
06/2002	Prize for the best Abitur at Paul-Klee-Gymnasium, Gersthofen

Organization of Scientific Meetings

2016	Chair of the *Symposium Bioorganic Chemistry* (*Nachwuchsgruppentreffen Bioorganische Chemie*), Jena
2019	Chair of the Organizing Committee for the conference *Advances in Chemical Biology*, Frankfurt am Main

Commissions of Trust

2018–	Chair of the Joint Group Chemical Biology (Gemeinsame Fachgruppe Chemische Biologie der DECHEMA, GDCh, DPhG, GBM)
2010 –	Member of the Selection Committee, German Academic Merit Foundation (Studienstiftung des deutschen Volkes)

Teaching Experience

04/2018 –	Lectures (summer semester): Syntheseplanung (for master students in Chemical Biology, 2SWS)
11/2016 – 02/2018	Lectures (winter semester): Microbiology (for pharmacists 2SWS) and Biochemistry (for pharmacists 2SWS)
08/2016	Summer School (2 weeks, Studienstiftung) Antibiotics and Resistance
11/2015 – 12/2015	Lectures (winter semester): Analytical Chemistry (Friedrich-Schiller-University, Jena, Ringvorlesung 4 lectures)
09/2014 – 01/2018	Seminars (winter semester): Bioanalytical Chemistry (Friedrich-Schiller-University, Jena, 2SWS)
07/2013	Biosynthesis (5d summer school Braz. Soc. of Pharamcognosy, Macapá, Brazil)
09/2009 – 12/2009	Practical Organic Chemistry I (ETH Zurich)
02/2008 – 06/2008	Practical Organic Chemistry II (ETH Zurich)
09/2007 – 12/2007	Teaching Assistant: Biological Chemistry I (ETH Zurich)
02/2007 – 07/2007	Teaching Assistant: Organic Chemistry II (ETH Zurich)

Institutional Responsibilities

2013 –	Faculty member, Leibniz Institute for Natural Product Research and Infection Biology, Hans Knöll Institute – HKI
2014 –	Associated member of the Faculty of Biological and Pharmaceutical Sciences, Friedrich-Schiller-Universität, Jena
2014 –	Faculty member, Jena School for Microbial Communication, Jena
2014 –	Faculty member, International Leibniz Research School, Jena

Supervision of Graduate Students and Postdoctoral Fellows

2013 –	4 Postdocs, 5 PhD, 5 Master, 1 Bachelor students, *ca.* 20 interns
2011 – 2013	2 PhD students (rotation students, Harvard Medical School)
2006 – 2011	2 Master, 1 Bachelor students (ETH Zurich)

Publications ($^{+}$equal contributions, *corresponding author)

1. A. Oberheide, S. Pflanze, **P. Stallforth**, H.-D. Arndt* "Solid Phase-Based Total Synthesis and Stereochemical Assignment of the Cryptic Natural Product Aurantizolicin" *Org. Lett.* **2019** *in press*
2. F. Broecker, S. Götze, J. Hudon, D. C. K. Rathwell, C. L. Pereira, **P. Stallforth**, A. Chakkumkalag, P. H. Seeberger* "Synthesis, Liposomal Formulation, and Immunological Evaluation of a Minimalistic Carbohydrate-α-GalCer Vaccine Candidate" *J. Med. Chem.* **2018**, *61,* 4918.
3. D. Heinrich, R. Barnett, L. Tweedy, R. Insall, **P. Stallforth**, T. Winckler* "The chemoattractant glorin is inactivated by ester cleavage during multicellular development of the social amoeba *Polysphondylium pallidum*" *ACS Chem. Biol.* **2018** *13,* 1506.
4. J. Arp^{+}, S. Götze^{+}, R. Mukherji, D. J. Mattern, M. García-Altares, M. Klapper, D. A. Brock, A. A. Brakhage, J. E. Strassmann, D. C. Queller, B. Bardl, K. Willing, G. Peschel, **P. Stallforth***, "Synergistic activity of co-secreted natural products from amoebae-associated bacteria" *Proc. Natl. Acad. Sci. USA*. **2018**, *115,* 3758
5. M. Klapper, D. Braga, G. Lackner, R. Herbst, **P. Stallforth***, "Bacterial Alkaloid Biosynthesis: Structural Diversity via a Minimalistic Nonribosomal Peptide Synthetase" *Cell Chem. Biol*. **2018**, 25, 659.
6. M. Klapper, J. Arp, M. Günther, **P. Stallforth***, "The Role of Bacterial Natural Products in Predator Defense" *Synlett*, **2018***, 29,* 537.
7. R. Barnett, **P. Stallforth***, "Natural Products from Social Amoebae" *Chem. Eur. J.* **2018**, *24*, 4202.
8. S. Götze, R. Herbst-Irmer, M. Klapper, H. Görls, K. R. A. Schneider, R. Barnett, T. Burks, U. Neu, P. Stallforth*, "Structure, Biosynthesis, and Biological Activity of the Cyclic Lipopeptide Anikasin" *ACS Chem. Biol.* **2017**, *12*, 2498.
9. R. Gallegos-Monterrosa, S. Kankel, S. Götze, R. Barnett, **P. Stallforth***, A. T. Kovács*, "*Lysinibacillus fusiformis* M5 induces increased complexity in *Bacillus subtilis* 168 colony biofilms via hypoxanthine" *J. Bact*. **2017**, 199:e00204-17.
10. J. Arp, **P. Stallforth***, "Rationalizing the Right Ratios", *Cell Chem. Biol.* **2017**, *24*, 539.
11. R. Barnett, D. Raszkowski, T. Winckler, **P. Stallforth***, "A Versatile Synthesis of the Signaling Peptide Glorin" *Beilstein J. Org. Chem.* **2017**, *13*, 247.

12. M. Klapper, S. Götze, R. Barnett, K. Willing, **P. Stallforth***, "Bacterial Alkaloids Prevent Amoebal Predation" *Angew. Chem. Int. Ed. Engl.* **2016,** *55,* 8944.
13. A. Adibekian*, **P. Stallforth***, "Cutting Edge Chemical Biology: Report from the 2016 International Symposium on Chemical Biology, January 13−15, Geneva, Switzerland" *ACS Chem. Biol.* **2016**, *11*, 816.
14. S. Götze, **P. Stallforth***, "Chemical Communication in Microbial Communities" *GIT Lab. J.* **2015**, *11-12*, 16.
15. J. Braesel, S. Götze, F. Shah, D. Heine, J. Tauber, C. Hertweck, A. Tunlid, **P. Stallforth**, D. Hoffmeister*, "Three Redundant Synthetases Secure Redox-Active Pigments Production in the Basidiomycete *Paxillus involutus*" *Chem. Biol.* **2015**, *22*, 1325.
16. S. Matthies, **P. Stallforth**, P. H. Seeberger*, "Total Synthesis of Legionaminic Acid as Basis for Serological Studies" *J. Am. Chem. Soc.* **2015**, *137,* 2848.
17. M. Cavallari[+], **P. Stallforth**[+], A. Kalinichenko[+], D. Rathwell, T. M. A. Gronewold, A. Adibekian, L. Mori, R. Landmann, P. H. Seeberger*, G. DeLibero* "A semi-synthetic carbohydrate-lipid vaccine that protects against *S. pneumoniae* in mice" *Nat. Chem. Biol.* **2014,** *10,* 950.
18. **P. Stallforth**, J. Clardy*, "An Atlas for Drug Discovery" *Proc. Natl. Acad. Sci. USA,* **2014***, 111*, 3655.
19. **P. Stallforth**, D. A. Brock, A. M. Cantley, X. Tian, D. C. Queller, J. E. Strassmann, J. Clardy* "A bacterial symbiont is converted from an inedible producer of beneficial molecules into food by a single mutation in the *gacA* gene" *Proc. Natl. Acad. Sci. USA,* **2013***, 110*, 14528. *(Highlighted in PNAS, Nat. Rev. Microbiol., BioTechniques, and other)*
20. **P. Stallforth**, J. Clardy* "X-ray crystallography: one size fits most" *Nature*, **2013**, *495*, 456.
21. **P. Stallforth**[+], S. Matthies[+], A. Adibekian, D. G. Gillingham, D. Hilvert, P. H. Seeberger* "Chemoenzymatic Synthesis of Sialic Acid" *Chem. Commun*. **2012**, *48*, 11987.
22. **P. Stallforth**, J. Clardy* "Protein Evolution: When Two Become Three" *Curr. Biol.*, **2012,** *22*, R685.
23. A. Adibekian, **P. Stallforth**, M.-L. Hecht, D. B. Werz, P. Gagneux, P. H. Seeberger* "Comparative bioinformatics analysis of the mammalian and bacterial glycomes" *Chem. Sci.* **2010**, *2*, 337.
24. T. Ohara, A. Adibekian, D. Esposito, **P. Stallforth** and P. H. Seeberger* "Towards the synthesis of a *Yersinia pestis* cell wall polysaccharide: enantioselective synthesis of an L-*glycero*-D-*manno*-heptose building blocks" *Chem. Commun.* **2010**, *46,* 4106.
25. R. Pragani, **P. Stallforth**, P. H. Seeberger* "*De Novo* Synthesis of a 2-Acetamido-4-amino-2,4,6-trideoxy-D-galactose (AAT) Building Block for the Preparation of a *Bacteroides fragilis* A1 Polysaccharide Fragment" *Org. Lett.* **2010**, *12*, 1624.
26. D. G. Gillingham[+], **P. Stallforth**[+], A. Adibekian, P. H. Seeberger*, D. Hilvert* "Chemoenzymatic Synthesis of Differentially Protected 3-Deoxysugars" *Nature Chem.* **2010**, *2*, 102.
27. **P. Stallforth**, B. Lepenies, A. Adibekian, P. H. Seeberger* "Carbohydrates – A Frontier in Medicinal Chemistry" *J. Med. Chem.* **2009**, *52*, 5561.
28. M.-L. Hecht, **P. Stallforth**, D. Varón-Silva, A. Adibekian, P. H. Seeberger* "Recent Advances in Carbohydrate-based Vaccines" *Curr. Opin. Chem. Biol.* **2009**, *13*, 354.
29. A. Adibekian, M. S. M. Timmer, **P. Stallforth,** J. van Rijn, P. H. Seeberger* "Stereocontrolled synthesis of fully functionalized D-glucosamine monosaccharides via a domino nitro Michael/Henry reaction" *Chem. Commun.* **2008**, *30*, 3549.
30. **P. Stallforth**, A. Adibekian, P. H. Seeberger* "De novo Synthesis of a D-Galacturonic Acid Thioglycoside as Key to the Total Synthesis of a Glycosphingolipid from *Sphingomonas yanoikuyae*" *Org. Lett.* **2008**, *10*, 1573.

Patents

1. P. H. Seeberger, **P. Stallforth**, G. DeLibero, M. Cavallari, "Carbohydrate-Glycolipid Conjugate Vaccines" WO 2013/178236 A1

Invited Talks and Conference Presentations

2012 Hans Knöll Institute, Jena
2014 Leibniz Research Alliance, Bioactive Compounds and Biotechnology, Berlin
2014 Daimler and Benz Foundation, Ladenburg
2015 Harvard Medical School, Boston MA, USA
2015 Bioorganic Symposium, Hamburg
15. 01. 2016 University of Mainz
14. 03. 2016 VAAM Conference, Jena
04. 08. 2016 Summer Academy, Studienstiftung, Neubeuern

10. 10. 2016 Small Molecules and Microbes, Konstanz
12. 11. 2016 Peter Seeberger Symposium, Berlin
08. 12. 2016 University of Düsseldorf
02. 03. 2017 University of Geneva, CH
14. 03. 2017 Chemiedozententagung, Marburg
16. 03. 2017 Symposium Biosynthetic Strategies, Jena
22. 03. 2017 MiCom, Jena
10. 04. 2017 Leibniz Research Alliance, Bioactive Compounds and Biotechnology, Freising
04. 05. 2017 New England Biolabs, Ipswich MA, USA
13. 06. 2017 Bioorganic Gordon Research Conference, Andover NH, USA
22. 08. 2017 Dictyostelium Conference, Geneva, CH
21. 09. 2017 2017 Bioorganic Symposium, Berlin
11. 01. 2018 MPI for Chemical Ecology, Jena
31. 01. 2018 Advances in Chemical Biology, Frankfurt
05. 03. 2018 Chemiedozententagung, Jena
19. 03. 2018 MiCom, Jena
27. 03. 2018 University of Utrecht, NL
05. 04. 2018 MPI for Chemical Ecology, Jena
24. 04. 2018 Leibniz Research Alliance, Bioactive Compounds and Biotechnology, Halle
28. 05. 2018 Max Planck Institute for Terrestrial Microbiology, Marburg
17. 07. 2018 Freie Universität Berlin
26. 07. 2018 University of Tübingen
14. 08. 2018 Dictyostelium Conference, Egmond aan Zee, NL
04. 09. 2018 Harvard Medical School, Boston MA, USA
19. 09. 2018 2018 Bioorganic Symposium, Bochum
06. 11. 2018 Chemistry Colloquium, University of Hamburg
13. 12. 2018 Biomolecular Systems Day, MPI Colloids and Interfaces, Potsdam-Golm
10. 01. 2019 University of Cologne
20. 02. 2019 2019 Naturstoff-Tage Irsee

Upcoming
04. 09. 2019 Swiss Society for Microbiology Meeting