

PERSONAL INFORMATION **Karin Seifert**

WORK EXPERIENCE

- December 2017- Present **Scientific Assessor (Pharmacovigilance)**
Federal Institute for Drugs and Medical Devices, Department of Pharmacovigilance, Unit Risk Management I (Germany)
Assessment of PSURs, RMPs, PASS results, signals, variations, and referrals with a focus on immunomodulatory drugs
- October 2008-September 2017 **Assistant Professor**
London School of Hygiene & Tropical Medicine, Faculty of Infectious and Tropical Diseases, Department of Immunology and Infection (United Kingdom)
- Research: drug and vaccine development (infectious diseases)
- Teaching and supervision at postgraduate level (MSc and PhD students)
- Citizenship: including membership of the LSHTM Ethics Committee (Interventions) and serving as UK representative and training school coordinator of COST Action CM1307
- January 2002-October 2008 **Postdoctoral Research Fellow**
London School of Hygiene & Tropical Medicine, Faculty of Infectious and Tropical Diseases, Department of Immunology and Infection (United Kingdom)
- Research: anti-parasitic drug development and drug resistance
- Teaching and supervision at postgraduate level (MSc students)
- Citizenship: including peer-review and academic oversight of a CL3 laboratory
- June 2001-December 2001 **Scientific Co-worker**
Institute of Specific Prophylaxis and Tropical Medicine, Medical University of Vienna (Austria)
- Studies on the mode of action of anti-amoebic agents

EDUCATION AND TRAINING

- December 1997-June 2001 **Doctorate (Dr. rer. nat.)**
University of Vienna (Austria)
- October 1990-October 1997 **Study of Pharmacy (Mag. pharm.)**
University of Vienna (Austria)

ADDITIONAL INFORMATION

Expertise Neglected Tropical Diseases, Pharmacovigilance, Epidemiology, Immunomodulatory drugs

- Publications**
1. Voak AA, Harris A, Coteron-Lopez JM, Angulo-Barturen I, Ferrer-Bazaga S, Croft SL, Seifert K (2021) Pharmacokinetic / pharmacodynamic relationships of liposomal amphotericin B and miltefosine in experimental visceral leishmaniasis. *PLoS Neglected Tropical Diseases* 15(3):e0009013.
 2. Prabowo SA, Smith SG, Seifert K, Fletcher HA (2019) Impact of individual-level factors on ex vivo mycobacterial growth inhibition: associations of immune cell phenotype, cytomegalovirus-specific response and sex with immunity following BCG vaccination in humans. *Tuberculosis (Edinb)*. 119:101876.
 3. Forrester S, Seifert K, Ashwin H, Brown N, Zelmar A, James S, Lagos D, Timmis J, Chatterjee M, Mottram JC, Croft SL, Kaye PM (2019) Tissue-specific transcriptomic changes associated with AmBisome(R) treatment of BALB/c mice with experimental visceral leishmaniasis. *Wellcome Open Research* 4:198.

4. Prabowo SA, Painter H, Zelmer A, Smith SG, Seifert K, Amat M, Cardona PJ, Fletcher HA (2019) RUTI vaccination enhances inhibition of mycobacterial growth ex vivo and induces a shift of monocyte phenotype in mice. *Frontiers in Immunology* 10:894.
5. Prabowo SA, Zelmer A, Stockdale L, Ojha U, Smith SG, Seifert K, Fletcher HA (2019) Historical BCG vaccination combined with drug treatment enhances inhibition of mycobacterial growth ex vivo in human peripheral blood cells. *Scientific Reports* 9:4842.
6. Ashwin H, Seifert K, Forrester S, Brown N, MacDonald S, James S, Lagos D, Timmis J, Mottram J, Croft SL, Kaye PM (2019) Tissue and host species-specific transcriptional changes in models of experimental visceral leishmaniasis. *Wellcome Open Research* 3:135.
7. Voak AA, Standing JF, Sepulveda N, Harris A, Croft SL, Seifert K (2018) Pharmacodynamics and cellular accumulation of amphotericin B and miltefosine in *Leishmania donovani*-infected primary macrophages. *Journal of Antimicrobial Chemotherapy* 73:1314-1323.
8. Salguero FJ, Garcia-Jimenez WL, Lima I, Seifert K (2018) Histopathological and immunohistochemical characterisation of hepatic granulomas in *Leishmania donovani*-infected BALB/c mice: a time-course study. *Parasite & Vectors* 11:73.
9. Meredith EL, Kumar A, Konno A, Szular J, Alford S, Seifert K, Horn D, Wilkinson S (2017) Distinct activation mechanisms trigger the trypanocidal activity of DNA damaging prodrugs. *Molecular Microbiology* 106:207-222.
10. Voak AA, Harris A, Qaiser Z, Croft SL, Seifert K (2017) Pharmacodynamics and biodistribution of single-dose liposomal amphotericin B at different stages of experimental visceral leishmaniasis. *Antimicrobial Agents and Chemotherapy* 61:e00497-17.
11. Koniordou M, Wyllie S, Patterson S, Seifert K (2017) Snapshot profiling of anti-leishmanial potency of lead compounds and drug candidates against intracellular *L. donovani* amastigotes with focus on human derived host cells. *Antimicrobial Agents and Chemotherapy* 61:e01228-16.
12. Seifert K, Juhls C, Salguero FJ, Croft SL (2015) Sequential chemo-immunotherapy of experimental visceral leishmaniasis using single low dose liposomal amphotericin B and a novel DNA vaccine candidate. *Antimicrobial Agents and Chemotherapy* 59:5819-5823.
13. Riede O, Seifert K, Oswald D, Endmann A, Hock C, Salguero FJ, Schroff M, Croft SL, Juhls C (2015) Preclinical safety and tolerability of a repeatedly administered DNA vaccine against human leishmaniasis. *Gene Therapy* 22:628-635.
14. Kaur H, Seifert K, Hawkes GE, Coumbarides GS, Alvar J, Croft SL (2015) Chemical and bioassay techniques to authenticate quality of the anti-leishmanial drug miltefosine. *American Journal of Hygiene and Tropical Medicine* 92(6 Suppl):31-38.
15. Lamour SD, Veselkov KA, Posma JM, Giraud E, Roger ME, Croft S, Marchesi JR, Holmes E, Seifert K, Saric J (2015) Metabolic, immune, and gut microbial signals mount a systems response to *Leishmania major* infection. *Journal of Proteome Research* 14:318-329.
16. Das S, Freier A, Boussoffara T, Das S, Oswald D, Losch FO, Selka M, Sacerdoti-Sierra N, Schonian G, Wiesmuller KH, Seifert K, Schroff M, Juhls C, Jaffe CL, Roy S, Das P, Louzir H, Croft SL, Modabber F, Walden P (2014) Modular multiantigen T cell epitope-enriched DNA vaccine against human leishmaniasis. *Science Translational Medicine* 6:234ra56.
17. Voak AA, Seifert K, Helsby NA, Wilkinson SR (2014) Evaluating aziridinyl nitrobenzamide compounds as leishmanicidal prodrugs. *Antimicrobial Agents and Chemotherapy* 58:370-377.
18. Salotra P, Singh R, Seifert K (2013) Visceral leishmaniasis - Current Treatments and Needs. In: *Trypanosomatid Diseases: Molecular Routes to Drug Discovery (Drug Discovery in Infectious Diseases, Volume 4)*. Jager, Timo; Koch, Oliver; Flohe, Leopold; Selzer, M. Paul. Wiley-Blackwell.
19. Voak AA, Gobalakrishnapillai V, Seifert K, Balczó E, Hu L, Hall BS, Wilkinson SR (2013) An essential type I nitroreductase from *Leishmania major* can be used to activate leishmanicidal prodrugs. *Journal of Biological Chemistry* 288:28466-28476.
20. Mohamed-Ahmed AH, Seifert K, Yardley V, Burrell-Saward H, Brocchini S, Croft SL (2013) Anti-leishmanial activity, uptake and biodistribution of an amphotericin B - poly(-glutamic acid) complex. *Antimicrobial Agents and Chemotherapy* 57:4608-4614.
21. Mohamed-Ahmed AH, Les KA, Seifert K, Croft SL, Brocchini S (2013) Non-covalent complexation of amphotericin-B with poly(-glutamic acid). *Molecular Pharmaceutics* 10:940-950.
22. Seifert K (2011) Structures, targets and recent approaches in anti-leishmanial drug discovery and development. *The Open Medicinal Chemistry Journal* 5:31-39.
23. Seifert K, Munday J, Syeda T, Croft SL (2011) In vitro interactions between sitamaquine and amphotericin B, sodium stibogluconate, miltefosine, paromomycin and pentamidine against *Leishmania donovani*. *Journal of Antimicrobial Chemotherapy* 66:850-854.

24. Croft SL, Seifert K (2010) Antiprotozoal agents. In: Antibiotic and Chemotherapy: Expert Consult (9th Edition). Finch, Roger G.; Greenwood, David; Whitley, Richard J.; Norrby, S. Ragnar. Saunders.
25. Nicoletti S, Seifert K, Gilbert IH (2010) Water-soluble polymer drug conjugates for combination chemotherapy against visceral leishmaniasis. *Bioorganic & Medicinal Chemistry* 18:2559-65.
26. Seifert K, Escobar P, Croft SL (2010) In vitro activity of anti-leishmanial drugs against *Leishmania donovani* is host cell dependent. *Journal of Antimicrobial Chemotherapy* 65:508-511.
27. Nicoletti S, Seifert K, Gilbert IH (2009) N-(2-hydroxypropyl)methacrylamide-amphotericin B (HPMA-AmB) copolymer conjugates as antileishmanial agents. *International Journal of Antimicrobial Agents* 33:441-448.
28. Seifert K, Lemke A, Croft SL, Kayser O (2007) Anti-leishmanial structure-activity-relationships of synthetic phospholipids: in vitro and in vivo activity of selected derivatives. *Antimicrobial Agents and Chemotherapy* 51:4525-4528.
29. Seifert K, Perez-Victoria FJ, Stettler M, Sanchez-Canete MP, Castanys S, Gamarro F, Croft SL (2007) Inactivation of the miltefosine transporter, LdMT, causes MIL resistance that is conferred to the amastigote stage of *Leishmania donovani* and persists in vivo. *International Journal of Antimicrobial Agents* 30:229-235.
30. Perez-Victoria FJ, Sanchez-Canete MP, Seifert K, Croft SL, Sundar S, Castanys S, Gamarro F (2006) Mechanisms of experimental resistance of *Leishmania* to miltefosine: implications for clinical use. *Drug Resistance update* 9:26-39.
31. Croft SL, Seifert K, Yardley V (2006) Current scenario of drug development for leishmaniasis. *Indian Journal of Medical Research* 123:399-410.
32. Seifert K, Croft SL (2006) In vitro and in vivo interactions between miltefosine and other antileishmanial drugs. *Antimicrobial Agents and Chemotherapy* 50:73-79.
33. Seifert K, Matu S, Perez-Victoria FJ, Castanys S, Gamarro F, Croft SL (2003) Characterisation of *Leishmania donovani* promastigotes resistant to hexa-decylphosphocholine (miltefosine). *International Journal of Antimicrobial Agents* 22:380-387.
34. Croft SL, Seifert K, Duchene M (2003) Antiprotozoal activities of phospholipid drugs. *Molecular Biochemical Parasitology* 126:165-172
35. Walochnik J, Duchene M, Seifert K, Wiedermann G, Hottkowitz T, Eibl H, Aspöck H (2002) Cytotoxic activities of alkylphosphocholines against clinical isolates of *Acanthamoeba* spp. *Antimicrobial Agents and Chemotherapy* 46:695-701.
36. Seifert K, Duchene M, Wernsdorfer WH, Kollaritsch H, Scheiner O, Wiedermann G, Hottkowitz T, Eibl H (2001) Effects of alkylphosphocholines on trophozoites of human intestinal parasite *Entamoeba histolytica*. *Antimicrobial Agents and Chemotherapy* 45: 1505-1510.
37. Seifert K, Duchene M, Wernsdorfer WH, Kollaritsch H, Scheiner O, Wiedermann G, Eibl H (2000) A new Approach for Chemotherapy against *Entamoeba histolytica*. *Archives of Medical Research* 31 (4 Suppl): S6-7.

Projects Patent application PCT/EP2013/059033, Combination vaccine for the treatment of leishmaniasis

Memberships Awards:
 British Society for Antimicrobial Chemotherapy, Travel grant to attend ICAAC (2014)
 Oral presentations at scientific meetings and conferences:
 International Society for Neglected Tropical Diseases, Wellcome Trust London, UK, "Host cells and anti-leishmanial drug activity" (2016)
 Training School of COST action CM1307, Fraunhofer-IME SP Hamburg, Germany, "Integrating PK and PD into lead optimisation" (2015)
 Joint meeting of the 16th Drug Design and Development Seminar 2015 of the German Society for Parasitology and Workgroup 4 of the COST action CM1307, Berlin, Germany, "Interrogating pharmacokinetics and pharmacodynamics of single dose liposomal amphotericin B in a mouse model of visceral leishmaniasis" (2015)
 PK/PD in *Leishmania* Meeting, DDW-GSK (Tres Cantos), Spain, "Defining PK/PD relationships of anti-leishmanial drugs" (2013)
 Vaccine interest group meeting, LSHTM, UK, "Proof of concept studies of combining drug and vaccine to treat leishmaniasis" (2013)

Worldleish 5 (Fifth World Congress on Leishmaniasis), Porto de Galinhas, Pernambuco, Brazil, "Chemo-immunotherapy of experimental visceral leishmaniasis using single low dose AmBisome(R) and a novel DNA vaccine" (2013)

Annual meeting of COST ACTION CM0801 (New Drugs for Neglected Diseases), Crete, Greece, "Development of a DNA vaccine for leishmaniasis" (2012)

Global Challenges for New Drug Discovery Against Tropical Parasitic Diseases, Riviera Mayo, Mexico, "Combination chemotherapy, immunotherapy and immunochemotherapy and its role in leishmaniasis" (2011)

Department of Pharmacology, Institute of Postgraduate Medical Education and Research, Kolkata, India, "Treatment of leishmaniasis and experimental models" (2011)

Peninsula Society of Tropical Medicine, Exeter, UK, "Leishmaniasis" (2010)

British Society for Parasitology, Spring Meeting and Trypanosomiasis and Leishmaniasis Seminar, Cardiff, UK, "In vitro activity and host cell dependence of anti-leishmanial drugs" (2010)

Scientific meeting at the Institute Pasteur Tunis prior to the 2nd SC meeting within LEISHDNAVAX. Tunisia, "Characterisation in vivo and in vitro of BI 2302 strain of *L. donovani*" (2010)

Annual Meeting of the Austrian Society of Tropical Medicine and Parasitology, Vienna, Austria, "In vitro activity of anti-leishmanial drugs against *Leishmania donovani* is host cell dependent" (2009)

Seminar at the Institute of Specific Prophylaxis and Tropical Medicine, Medical University Vienna, Vienna, Austria, "New approaches to treat leishmaniasis - from experimental models to beyond" (2008)

Workshop on leishmaniasis chemotherapy and drug resistance. LSHTM representative for Leishmed. Larnaca, Cyprus, "Combination chemotherapy for leishmaniasis - in vitro and in vivo interactions of anti-leishmanial drugs" (2006)

ICOPA XI, Glasgow, UK, "Anti-leishmanial activity and selectivity of phospholipids" (2006)

Workshop on Drug combinations for the treatment of visceral leishmaniasis. DNDi, Geneva, Switzerland, "Biological efficacy data" (2005)

Seminar at the Welsh School of Pharmacy, Centre for Polymer Therapeutics, Cardiff University, Cardiff, UK, "Intracellular delivery of anti-leishmanial compounds to the parasitophorous vacuole of macrophages" (2005)

Annual Meeting of the Austrian Society of Tropical Medicine and Parasitology, Vienna, Austria, "Miltefosin: Studien zu Resistenzentwicklung und Kombinationstherapie in in vitro und in vivo Modellen von viszeraler Leishmaniose" (2005)

Meeting of WG5 (Drug resistance) of COST ACTION B22, Drug Development for parasitic diseases, University of Glasgow, Scotland, UK, "Experimental resistance to miltefosine in leishmaniasis" (2005)

Third World Congress on Leishmaniasis, Sicily, Italy, "Interaction with other anti-leishmanial drugs" (2005), sponsored by Zentaris

Drug Development for Parasitic Diseases, 1st COST B22 Congress, Antwerp, Belgium, "Interaction of miltefosine with other anti-leishmanial drugs" (2004)

XI. International Congress of Protozoology (ICOP XI), Salzburg, Austria, "Effect of alkylphosphocholines on *Entamoeba histolytica*" (2001)

XXXV. Tagung der Osterreichischen Gesellschaft fur Tropenmedizin und Parasitologie, Innsbruck, Austria, "Die Wirkung von Alkylphosphocholinen auf *Entamoeba histolytica*" (2001)

4th COST-B9 Congress on Antiprotozoal Chemotherapy, Lisbon, Portugal, "In vitro activity of alkylphosphocholines against *Entamoeba histolytica*" (2001)

XIV. Seminar on Amebiasis. Mexico City, Mexico, "A new approach for chemotherapy against *Entamoeba histolytica*" (2000)

Other Relevant Information

Certificate in Pharmacoepidemiology and Pharmacovigilance, London School of Hygiene & Tropical Medicine, UK (2008 - 2009)

Completion of selected Modules of the Master of Drug Regulatory Affairs (Licensing, Pharmacovigilance, Pharmacological and Toxicological Documentation), University of Bonn, Germany (2016 - 2017)