

MAREIKE WERLE – CV

WORK EXPERIENCE

Research Assistant Prof. Pitzalis Lab, Experimental Medicine & Rheumatology, Immunology Dec 2020 - April 2021 The William Harvey Research Institute, Barts and the London School of Medicine and Dentistry, Queen Mary University London London, UK

- Executed immunological/biological lab techniques such as: Wet lab cell culture work, ELISA, Western Blot analysis, antibody production, organoid production and staining, immunohistochemistry, cell staining, microscopy EDUCATION Ph.D. Queen Mary University London/William Harvey Research Institute, UK 2021 - present Project: Synovial specific polymer nanoparticles as a targeted drug delivery system for the treatment of rheumatoid arthritis Centre for Experimental Medicine & Rheumatology (European Centre for Excellence 2023-2028), UK
- Developed an adjustable, targeted, biocompatible drug delivery system in nanomedicine
- Applied nanomedical drug delivery system for the treatment of rheumatoid arthritis
- Chemically produced, optimised and modified targeted and loaded polymer nanoparticles
- Performed immunological, biophysical and chemical characterisation experiments with i.a Immunofluorescence, ELISA, DLS, Nanosight, TEM, LC-MS
- Analysed polymer nanoparticles in-vitro and ex-vivo for the treatment of rheumatoid arthritis
- Produced, optimised, analysed and adapted a synovial specific scFv-Fc antibody
- Presented my work at conferences and symposia
- Established interdisciplinary european cooperations with companies and research groups from other universities
- Developed and implemented an interdisciplinary research project in academia independently
- Processed animal samples as well as human blood samples and tissues and conducted ex-vivo analyses M.Sc. in Biophysics Goethe University Frankfurt, Germany (graded: 1,0/ excellent, with honours) 2018 - 2020 Masterthesis: Cell responses to the cold atmospheric plasma of the plasma torch for wound healing 2020, Goethe University Frankfurt, Germany (graded: 1,0) IAP Plasmaphysics in cooperation with the Institute for Cell Biology and Neuroscience in the Department of Developmental Biology of Vertebrates
- Built and designed a new optimised plasma torch and compared bacteria experiments with the bachelor thesis
- Developed and executed protocols for the isolation, cultivation, and maintenance of various bacterial strains, including antibiotic resistant bacteria
- Radiated liquid culture and human cell culture with the plasma torch
- Performed i.a. scratch assays, cell stainings and in vivo experiments on a larval organisms B.Sc. in Biophysics Goethe University Frankfurt, Germany (graded: 2,8) 2012-2018 Bachelorthesis:

Applications of the plasma torch for sterilization 2018, Goethe University Frankfurt, Germany (graded: 1,0) IAP Plasmaphysics in cooperation with Molecular Cellbiology and Humangenetics

- Established an interdisciplinary collaboration independently and developed the research project (including the Master thesis as further work)
- Optimised and adapted a plasma torch for biological experiments
- Applied plasma torch subsequently to bacteria Prior Education
- Abitur (graded: 2,6) Eberhard Goethein Schule Mannheim, Germany 2011-2012
- Fachhochschulreife with apprenticeship as an economic assistant (graded: 1,9) F&U Heidelberg, Germany 2009-2011
- Other Internships: - University Hospital, Mannheim, Germany 2010
- Medical Internship in the Neurosurgery, with contact to patients - Roche Diagnostics, Mannheim, Germany 2008 Internship in the Chemistry, Pharmacy and Administration Department

AWARDS, ADDITIONAL EXPERIENCE AND MEMBERSHIPS

- Certified Business Assistant (F&U Heidelberg, Germany) 2011
- Member of the British Society for Immunology 2021
- Member of the British Society for Nanomedicine 2022
- William Harvey Research Institute's PhD Representative (London, UK) 2023 - present - Elected Representative - Organised symposia and networking events - Represented student issues - Collaborated with others departments to organise seminars, talks and presentations for other students
- Award for the best Conference Talk 2023 - The European NanoMed Conference 2023 (Liverpool, UK) Awarded by: British Society for Nanomedicine, European Technology Platform Nanomedicine, The European Laboratory Research & Innovation Group and the University of Liverpool