



## Curriculum Vitae Professor Dr Lothar H. Wieler



Image: Kay Herschelmann

**Name:** Lothar Heinz Wieler

**Date of birth:** 8 February 1961

### **Research Priorities: Pandemics, zoonoses, antibiotic-resistant bacteria**

Lothar H. Wieler is a veterinarian and microbiologist. His research focuses on pandemics and infectious diseases that can be transmitted between animals and humans, known as zoonoses. In his work he particularly concentrates on infections involving multi-resistant bacteria and investigates transmission mechanisms and microevolution, as well as disease-causing factors and disease control strategies.

### **Academic and Professional Career**

- since 04/2023 Speaker, Digital Health Cluster and Chair, Digital Global Public Health, Hasso-Plattner-Institute for Digital Engineering gGmbH, Potsdam, Germany
- 2015 - 2023 President, Robert Koch Institute, Berlin, Berlin, Germany
- 2012 Research Stay, Wellcome Trust Sanger Institute, Hinxton, Cambridge, UK
- 1998 - 2015 University Professor and Executive Director, Institute for Microbiology and Epizootics, Department of Veterinary Medicine, Freie Universität Berlin (FU), Berlin, Germany
- 1997 Veterinary Specialist for Microbiology
- 1996 Habilitation in the field of Infectious Diseases and Animal Hygiene, Department of Veterinary Medicine, Justus-Liebig-University Gießen, Gießen, Germany
- 1996 Research Stay, Center for Vaccine Development and Global Health (CVD), University of Maryland (UMB), Baltimore, USA
- 1990 - 1998 Research Assistant, Institute for Hygiene and Infectious Diseases of Animals, Justus Liebig University Gießen, Gießen, Germany

- 1988            Doctorate, Institute for Hygiene, Medical Microbiology and Epidemiology, Ludwig-Maximilians-University (LMU) Munich, Germany
- 1987 - 1990    Research Assistant, Department of Pathology, University of Ulm, Ulm, Germany
- 1982 - 1985    Degree in Veterinary Medicine, FU Berlin and LMU Munich, Munich, Germany

**Functions in Scientific Societies and Committees**

- since 2021     Member, COVID-19 expert advisory council, German Federal Government
- since 2021     Provisional Senator, Section “Global Health”, German National Academy of Sciences Leopoldina, Germany
- since 2020     Member, One Health Global Leaders Group on Antimicrobial Resistance, World Health Organization (WHO), Food and Agriculture Organization of the United Nations (FAO), World Organisation for Animal Health (WOAH), and Environment Programme of the United Nations (UNEP)
- since 2020     Member, EU COVID-19 Advisory Panel, European Union
- 2020 - 2021    Chairperson, International Health Regulation Review Committee (IHR-RC), WHO
- since 2019     Co-Chairperson, Working Group on Influenza Preparedness and Response, WHO
- since 2018     Member, Strategic and Technical Advisory Group for Infectious Hazards (STAG-IH), WHO
- since 2018     Member, European Advisory Committee on Health Research (EACHR), WHO Regional Office for Europe, Copenhagen, Denmark
- since 2017     Member, Executive Board, International Association of National Public Health Institutes (IANPHI)
- since 2016     Guest Member, Scientific Advisory Board, Leibniz Institute of Virology, Hamburg, Germany
- 2016 - 2021    Senator, Section Veterinary Medicine, German National Academy of Sciences Leopoldina, Germany
- since 2016     Member, Scientific Advisory Board, Global Research Collaboration for Infectious Disease Preparedness (GloPID-R)
- since 2015     Guest Member, Scientific Advisory Board, Bernhard Nocht Institute for Tropical Medicine (BNITM), Hamburg, Germany
- since 2015     Guest Member, Scientific Advisory Board, Research Center Borstel, Germany
- since 2015     Member, Berlin Network/Center for Bioinformatics (BNZB), Germany

- since 2015      Guest Member, Scientific Advisory Board, Friedrich-Loeffler-Institut (FLI) Greifswald - Insel Riems, Germany
- 2012 - 2015    Member, Federal Office for Civil Protection, German Federal Ministry of the Interior and Community (BMI), Germany
- 2012 - 2014    Chairperson, Specialist group “Zoonoses”, German Society for Hygiene and Microbiology (DGHM), Germany
- 2011 - 2015    Chairperson, Scientific Advisory Board, FLI Greifswald - Insel Riems, Germany
- 2011 - 2020    Member, Advisory Council on Military Medicine, German Federal Ministry of Defence (BMVg), Germany
- 2009 - 2014    Member, Board of Directors, German Society of Veterinary Medicine (DVG), Germany
- 2009 - 2014    Member, Internal Advisory Board, The National Research Platform on Zoonoses, Germany
- 2008 - 2016    Elected Expert, Specialist Review Board 207 for agriculture, forestry and animal science, German Research Foundation (DFG), Germany

**Project Coordination, Membership in Collaborative Research Projects**

- since 2020      Member, Project “Multidrug resistant invasive non-typhoidal Salmonella disease in children: The role of carriage in humans and environmental contamination in an endemic setting in Kenya”, DFG, Germany
- 2010 - 2016    Speaker, International Research Training Group 1673 “Functional Molecular Infection Epidemiology”, DFG, Germany
- since 2009      Associate Editor, Gut Pathogens
- 2008 - 2014    Deputy Spokesperson, Working group “Zoonoses and infectious research”, Technology and Method Platform for Medical Research (TMF), Berlin, Germany
- 2007 - 2015    Coordinator, Network “Food-borne zoonotic infections in humans” (FBI-Zoo), Federal Ministry of Education and Research, Germany
- 2003 - 2019    Publisher, Berliner und Münchener Tierärztliche Wochenschrift, Germany

**Honours and Awarded Memberships**

- 2024            Verdienstkreuz 1. Klasse, Federal Republic of Germany
- 2022            Honorary Doctorate, Faculty of Veterinary Medicine, LMU, Munich, Germany
- 2022            Wilhelm Boden Medal, District Administration, Altenkirchen District, Germany

2022	Golden Needle of Honour, Freie Universität Berlin, Berlin, Germany
2021	Ferdinand Cohn Medal, DGHM, Germany
2021	Albrecht von Graefe-Medal, Berliner Medizinische Gesellschaft, Berlin, Germany
2021	Honorary Doctorate, Vetsuisse Faculty, University of Zurich, Zurich, Switzerland
2021	Honorary Doctorate, University of Veterinary Medicine Hanover, Hanover, Germany
2016	Walter Frei Award, Vetsuisse Faculty, University of Zurich, Zurich, Switzerland
since 2010	Member, German National Academy of Sciences Leopoldina, Germany
2007	Main Award, German Society for Hygiene and Microbiology (DGHM), Germany
1997	Young Talent Award, DVG, Germany
1996	National Institutes of Health (NIH) Scholarship, Center for Vaccine Development and Global Health (CVD), University of Maryland (UMB), Baltimore, USA

### Research Priorities

Lothar H. Wieler is a veterinarian and microbiologist. His research focuses on pandemics and infectious diseases that can be transmitted between animals and humans, known as zoonoses. In his work he particularly concentrates on infections involving multi-resistant bacteria and investigates transmission mechanisms and microevolution, as well as disease-causing factors and disease control strategies.

Zoonoses are caused by bacteria, parasites, fungi or viruses. The pathogens can be transmitted by mammals, ticks and mosquitoes, but also by milk, eggs, meat and other food items. Known zoonoses are borreliosis and early summer meningoencephalitis (TBE), both transmitted by ticks. But rabies, enterohaemorrhagic Escherichia coli (EHEC), BSE and Ebola fever also belong to this group. Pandemic viruses such as influenza or SARS-CoV are also zoonose pathogens and can, for example, be transmitted by wild birds (influenza) or bats (SARS-CoV) – infections in animals and humans are closely related due to the changing lifestyles and behaviour of humans as well as changing ecosystems (One Health).

With his work, Lothar Wieler hopes to clarify how bacterial pathogens successfully infect different hosts and how pandemics can be better averted by means of preventative measures. For this purpose, zoonose pathogens are identified and decoded in terms of their microevolution. Using genome sequence analyses, in vitro methods and animal infection models in natural hosts (chickens, pigs), it is possible to identify the factors that facilitate a successful infection in the respective host and contribute to the development of resistance. The goal is to be able to identify possible outbreaks more quickly and to develop prophylactic intervention strategies.

A central challenge for Lothar Wieler and his colleagues is the increasing resistance of many pathogens. Bacteria no longer react to antibiotics, viruses no longer to antivirals – pathogens are

constantly developing new mechanisms of resistance. In order to recognise and understand these processes, pathogens are cultured and genetically modified. Subsequently, it will be investigated how pathogens and medication multiply and behave in natural hosts (chickens, pigs). Due to population growth and increasing human mobility, zoonoses spread ever faster and pathogens are introduced and transmitted before produced immunity can develop. Research into zoonoses and preventative measures is therefore becoming increasingly important.