



Curriculum Vitae

Personal information **Sandra-Maria Wienhold**

Work experience

1. Employer: Federal Office of Consumer Protection and Food Safety
 - Start date: 07/2021
 - Position: Scientific Assessor
 - Activities: Preclinical and clinical assessment of safety and efficacy of veterinary medicinal products in national, decentralized, mutual recognition and centralized procedures with a special focus on antibiotics and antibiotic resistance
 - Country: Germany
2. Employer: Department of Infectious Diseases and Respiratory Medicine and Division of Pulmonary Inflammation, Charité - Universitätsmedizin Berlin
 - Start date: 11/2013
 - End date: 06/2021 - still listed as a guest scientist (since 07/2021)
 - Position: Research Associate (2013 - 2019) / Junior Group Leader (since 2019)
 - Activities: Working on projects focusing on *in vitro*, *ex vivo* and *in vivo* bacterial lung infection models, including multidrug resistant bacteria and bacteriophage research
 - Country: Germany

Education and training

1. Subject: Department of Infectious Diseases and Respiratory Medicine, Charité - Universitätsmedizin Berlin (external via Freie Universität Berlin)
 - Start date: 03/2011
 - End date: 05/2015
 - Qualification: Doctor of Veterinary Medicine
 - Country: Germany
2. Subject: Freie Universität (FU) Berlin
 - Start date: 10/2005
 - End date: 02/2011
 - Qualification: Veterinary Surgeon
 - Country: Germany

Additional information

Publications

Bürkle M, Korf IHE, Lippegauß A, Krautwurst S, Rohde C, Weissfuss C, Nouailles G, Tene XM, Gaborieau B, Ghigo JM, Ricard JD, Hocke AC, Papefort K, Debarbieux L, Witzenrath M, **Wienhold SM***, Krishnamoorthy G*. Phage-phage competition and biofilms affect interactions between two virulent bacteriophages and *Pseudomonas aeruginosa*. ISME J. 2025 Jan 2;19(1):wraf065. doi: 10.1093/ismejo/wraf065. *Sandra-Maria Wienhold and Gopinath Krishnamoorthy equally contributed to this work.

Röwekamp I, Maschirow L, Rabes A, Fiocca Vernengo F, Hamann L, Heinz GA, Mashreghi MF, Caesar S, Milek M, Fagundes Fonseca AC, **Wienhold SM**, Nouailles G, Yao L, Mousavi S, Bruder D, Boehme JD, Puzianowska-Kuznicka M, Beule D, Witzenrath M; CAPNETZ Study Group; Löhning M, Klose CSN, Heimesaat MM, Diefenbach A, Opitz B. IL-33 controls IL-22-dependent antibacterial defense by modulating the microbiota. Proc Natl Acad Sci U S A. 2024 May 28;121(22):e2310864121.

Dörner PJ, Anandakumar H, Röwekamp I, Fiocca Vernengo F, Millet Pascual-Leone B, Krzanowski M, Sellmaier J, Brüning U, Fritsche-Guenther R, Pfannkuch L, Kurth F, Milek M, Igbokwe V, Löber U,

Gutbier B, Holstein M, Heinz GA, Mashreghi MF, Schulte LN, Klatt AB, Caesar S, **Wienhold SM**, Offermanns S, Mack M, Witzenrath M, Jordan S, Beule D, Kirwan JA, Forslund SK, Wilck N, Bartolomaeus H, Heimesaat MM, Opitz B. **Clinically used broad-spectrum antibiotics compromise inflammatory monocyte-dependent antibacterial defense in the lung.** *Nat Commun.* 2024 Mar 30;15(1):2788. doi: 10.1038/s41467-024-47149-z.

Goekeri C, Pennitz P, Groenewald W, Behrendt U, Kirsten H, Zobel CM, Berger S, Heinz GA, Mashreghi MF, **Wienhold SM**, Dietert K, Dorhoi A, Gruber AD, Scholz M, Rohde G, Suttorp N, Capnetz Study Group, Witzenrath M, Nouailles G. **MicroRNA-223 Dampens Pulmonary Inflammation during Pneumococcal Pneumonia.** *Cells.* 2023 Mar 21;12(6):959. doi: 10.3390/cells12060959.

Weissfuss C, **Wienhold SM**, Bürkle M, Gaborieau B, Bushe J, Behrendt U, Bischoff R, Korf IHE, Wienecke S, Dannheim A, Ziehr H, Rohde C, Gruber AD, Ricard JD, Debarbieux L, Witzenrath M, Nouailles G. **Exposure to Bacteriophage Cocktails against *Pseudomonas aeruginosa* or *Escherichia coli* Provokes Marginal Humoral Immunity in Naïve Mice.** *Viruses.* 2023 Jan 29;15(2):387. doi: 10.3390/v15020387.

Hollenhorst MI*, Nandigama R*, Evers SB*, Gamayun I, Abdel Wadood N, Salah A, Pieper M, Wyatt A, Stukalov A, Gebhardt A, Nadolni W, Burow W, Herr C, Beisswenger C, Kusumakshi S, Ectors F, Kichko TI, Hübner L, Reeh P, Munder A, **Wienhold SM**, Witzenrath M, Bals R, Flockerzi V, Gudermann T, Bischoff M, Lipp P, Zierler S, Chubanov V, Pichlmair A, König P, Boehm U, Krasteva Christ G. **Bitter taste signaling in tracheal epithelial brush cells elicits innate immune responses to bacterial infection.** *J Clin Invest.* 2022 May 3:e150951. doi: 10.1172/JCI150951. Epub ahead of print. *equal contribution

Wienhold SM*, Brack MC*, Nouailles G, Krishnamoorthy G, Korf IHE, Seitz C, Wienecke S, Dietert K, Gurtner C, Kershaw O, Gruber AD, Ross A, Ziehr H, Rohde M, Neudecker J, Lienau J, Suttorp N, Hippenstiel S, Hocke AC, Rohde C, Witzenrath M. **Preclinical Assessment of Bacteriophage Therapy against Experimental Acinetobacter baumannii Lung Infection.** *Viruses.* 2021 Dec 24;14(1):33. doi: 10.3390/v14010033. *equal contribution

Nouailles G*, Wyler E*, Pennitz P, Postmus D, Vladimirova D, Kazmierski J, Pott F, Dietert K, Muelleder M, Farztdinov V, Obermayer B, **Wienhold SM**, Andreotti S, Hoefler T, Sawitzki B, Drosten C, Sander LE, Suttorp N, Ralser M, Beule D, Gruber AD, Goffinet C, Landthaler M, Trimpert J, Witzenrath M. **Temporal omics analysis in Syrian hamsters unravel cellular effector responses to moderate COVID-19.** *Nat Commun.* 2021 Aug 11;12(1):4869. doi: 10.1038/s41467-021-25030-7. *equal contribution

Tabeling C*, **Wienhold SM***, Birnhuber A, Brack MC, Nouailles G, Kershaw O, Firsching TC, Gruber AD, Lienau J, Marsh LM, Olschewski A, Kwapiszewska G, Witzenrath M. **Pulmonary fibrosis in Fra_2 transgenic mice is associated with decreased numbers of alveolar macrophages and increased susceptibility to pneumococcal pneumonia.** *Am J Physiol Lung Cell Mol Physiol.* 2021 May 1;320(5):L916-L925. DOI: 10.1152/ajplung.00505.2020. Epub 2021 Mar 3. *equal contribution

Schirm S, Ahnert P, Berger S, Nouailles G, **Wienhold SM**, Müller-Redetzky H, Suttorp N, Loeffler M, Witzenrath M, Scholz M. **A biomathematical model of immune response and barrier function in mice with pneumococcal lung infection.** *PLoS One.* 2020 Dec 3;15(12):e0243147. doi: 10.1371/journal.pone.0243147.

Müller-Redetzky H, Kellermann U, **Wienhold SM**, Gutbier B, Lienau J, Hellwig K, Reppe K, Letsiou E, Tschernig T, Scholz M, Ahnert P, Maasch C, Hoehlig K, Klussmann S, Vater A, Firsching TC, Hoppe J, Suttorp N, Witzenrath M. **Neutralizing complement C5a protects mice with pneumococcal pulmonary sepsis.** *Anesthesiology.* 2020;132(4):795-807. DOI: 10.1097/ALN.0000000000003149

Wienhold SM, Lienau J and Witzenrath M. **Towards approved phage therapy in Western Europe.** Invited review for *Viruses* Special Issue "Hurdles for Phage Therapy (PT) to Become a Reality". *Viruses* 2019; 23;11(3). pii: E295 DOI: 10.3390/v11030295

Dabrowski AN, Conrad C, Behrendt U, Shrivastav A, Baal N, **Wienhold SM**, Hackstein H, N'Guessan PD, Aly S, Reppe K, Suttorp N, Zahlten J. **Peptidoglycan Recognition Protein 2 Regulates Neutrophil Recruitment Into the Lungs After Streptococcus pneumoniae Infection.** *Front Microbiol.* 2019;Feb 19;10:199. DOI: 10.3389/fmicb.2019.00199

Berger S, Goekeri C, Gupta SK, Vera J, Dietert K, Behrendt U, Lienau J, **Wienhold SM**, Gruber AD, Suttorp N, Witzenrath M, Nouailles G. **Delay in antibiotic therapy results in fatal disease outcome in murine pneumococcal pneumonia.** *Crit Care* 2018;Nov 1;22(1):287. DOI: 10.1186/s13054_018_2224_5

Wienhold SM*, Macri M*, Nouailles G, Dietert K, Gurtner C, Gruber AD, Heimesaat MM, Lienau J, Schumacher F, Kleuser B, Opitz B, Suttorp N, Witzenrath M*, Müller-Redetzky HC*. **Ventilator-induced lung injury is aggravated by antibiotic mediated microbiota depletion in mice.** *Crit Care.* 2018: Oct 29;22(1):282 DOI: 10.1186/s13054_018_2213_8, *equal contribution

Dietert K, Gutbier B, **Wienhold SM**, Reppe K, Jiang X, Yao L, Chaput C, Naujoks J, Brack M, Kupke A, Peteranderl C, Becker S, von Lachner C, Baal N, Slevogt H, Hocke AC, Witzenrath M, Opitz B, Herold S, Hackstein H, Sander LE, Suttorp N, Gruber AD. **Spectrum of pathogen- and model-specific histopathologies in mouse models of acute pneumonia.** *PLoS One.* 2017;Nov 20;12(11):e0188251 DOI: 10.1371/journal.pone.0188251 eCollection 2017

Emmadi M, Khan N, Lykke L, Reppe K, G Parameswarappa S, Lisboa MP, **Wienhold SM**, Witzenrath M, Pereira CL, Seeberger PH. **A Streptococcus pneumoniae Type 2 Oligosaccharide Glycoconjugate Elicits Opsonic Antibodies and Is Protective in an Animal Model of Invasive Pneumococcal Disease.** *J Am Chem Soc.* 2017;Oct 18;139(41):14783-14791 DOI: 10.1021/jacs.7b07836

Schirm S, Ahnert P, **Wienhold S**, Mueller-Redetzky H, Nouailles-Kursar G, Loeffler M, Witzenrath M, Scholz M. **A Biomathematical Model of Pneumococcal Lung Infection and Antibiotic Treatment in Mice.** *PLoS One.* 2016;May 19;11(5):e0156047 DOI: 10.1371/journal.pone.0156047 eCollection 2016

Müller-Redetzky HC, Felten M, Hellwig K, **Wienhold SM**, Naujoks J, Opitz B, Kershaw O, Gruber AD, Suttorp N, Witzenrath M. **Increasing the inspiratory time and I:E ratio during mechanical ventilation aggravates ventilator-induced lung injury in mice.** *Crit Care.* 2015;Jan 28;19:23. DOI: 10.1186/s13054_015_0759_2

Müller-Redetzky HC, **Wienhold SM**, Berg J, Hocke AC, Hippenstiel S, Hellwig K, Gutbier B, Opitz B, Neudecker J, Rückert J, Gruber AD, Kershaw O, Mayer K, Suttorp N, Witzenrath M. **Moxifloxacin is not anti-inflammatory in experimental pneumococcal pneumonia.** *J Antimicrob Chemother.* 2015. DOI: 10.1093/jac/dku446. Epub 2014 Nov 17.

Journal articles (non Peer-Reviewed)

Sandra-Maria Wienhold and Martin Witzentrath

Therapie der Zukunft: Bakteriophagen bei Infektionen der Lunge (original in German);

Therapy of the future: bacteriophages in lung infections (english translation)

Article published in Pneumologischen Nachrichten as a special issue of Kompakt Pneumologie on the occasion of the 59th Congress Deutsche Gesellschaft für Pneumologie und Beatmungsmedizin e.V. March 14-17, 2018

Projects

Memberships

DZIF (German Center for Infectin Research) TransPhage-Net

National Phage Forum (Germany)

Deutsche Gesellschaft für Infektiologie e. V. (DGI)

Gesellschaft der Freunde und Förderer der Veterinärmedizin an der Freien Universität Berlin e.V.

Berliner Tierärztliche Gesellschaft e.V.

Other Relevant Information