

PD Nicole de Buhr, PhD

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 Current position: Post Doc, Veterinarian in the field of biochemistry and infectious diseases

1. University training and degree

2012 - 2015 PhD-studies in the program "Animal and Zoonotic Infections" in the Institute of Microbiology, University of Veterinary Medicine, Hannover, Germany
 2006 - 2012 Studies in Veterinary Medicine at the University of Veterinary Medicine, Hannover, Germany
 2002-2005 State examination Veterinary medical technical assistant at the University of Veterinary Medicine, Hannover, Germany

2. Advanced academic qualifications

2020 Lecture qualification (Habilitation) in Biochemistry and Infection Biochemistry, University of Veterinary Medicine, Hannover, Germany (defended 09.12.2020); Title: "The impact of neutrophil extracellular traps (NETs) in infectious diseases of humans and animals"
 2017 Research Assistant, Universidad Nacional de Costa Rica, Heredia, Costa Rica (DAAD Scholarship)
 Since 2015 PostDoc at the Department of Biochemistry, University of Veterinary Medicine, Hannover, Germany

3. Postgraduate professional career

Since 2020 Independent supervision of PhD Students at the Department of Biochemistry, University of Veterinary Medicine, Hannover, Germany
 2017 – 2019 Ina-Pichlmayer mentoring program for young female scientists, Medical School Hannover (MHH), Germany
 2016 - 2018 Qualification in professional teaching: Course Professional Teaching, structured education program by the Competence Center of University Didactics for Lower Saxony of the TU Braunschweig

4. Other activities and awards

2019	Gustav Rosenberger-Gedächtnispreis, University of Veterinary Medicine, Hannover, Germany
2016	1st place at the competition for comprehensible science (Helmholtz-Zentrum Geesthacht) for the most comprehensible lecture about the PhD for a non-specialist audience.
2016	Poster prize (3rd place) Zoonosensymposium 2016 - German Symposium on Zoonoses Research 2016, Berlin, Germany
2016	Best talk of a young scientist at the meeting at the specialist group conference Bacteriology and Mycology of the German Veterinary Medical Society, Jena, Germany
2016	Gerhard-Domagk Preis für Biowissenschaften, University of Veterinary Medicine, Hannover, Germany for the PhD thesis
2016	Poster prize (1. place), Third International Workshop of Veterinary Neuroscience
2014	Poster prize (3rd place), Zoonosensymposium 2014 - Joint Conference: German Symposium on Zoonoses Research 2014, Berlin 2014
Since 2017	Member of the commission for Studies in Biochemistry, University of Veterinary Medicine, Hannover, Germany
Since 2017	IT representative & data protection officer at the Department of Biochemistry, University of Veterinary Medicine, Hannover, Germany
2013-2015	Member (student representative) of the commission for the PhD-Program „Animal and Zoonotic Infection“, University of Veterinary Medicine, Hannover, Germany
2013-2015	Member (student representative) of the Graduate School Hannover (HGNI), University of Veterinary Medicine, Hannover, Germany
2012 -2018	Member of the organizing committee “Young scientist” of the National Research Platform for Zoonoses

5. Main research interests

- Neutrophil extracellular traps (NETs) in humans and animals
- Host-pathogen interaction in bacterial infections (in vivo / in vitro): Focus lung and brain
- Host-pathogen interaction in co-infections (Virus- bacteria, bacteria-bacteria)
- Immunomodulation and storage preservation of neutrophils
- 3D-Cell culture models of barriers under infection
- Animal models of infection: pigs

6. Ten most important publications (out of 29)

1. Bonilla, M C, Fingerhut, L, Alfonso-Castro, A, Mergani, A, Schwennen, C, von Köckritz-Blickwede, M, and **de Buhr, N** (2020). How Long Does a Neutrophil Live? - The Effect of 24 h Whole Blood Storage on Neutrophil Functions in Pigs. *Biomedicines*. Vol. 8, page 278. doi: 10.3390/biomedicines8080278.
2. Meurer, M, Öhlmann, S, Bonilla, M C, Valentin-Weigand, P, Beineke, A, Hennig-Pauka, I, Schwerk, C, Schrotten, H, Baums, C G, von Köckritz-Blickwede, M, and **de Buhr, N** (2020). Role of Bacterial and Host DNases on Host-Pathogen Interaction during *Streptococcus suis* Meningitis. *Int. J. Mol. Sci.*, Vol. 21, Page 5289. doi: 10.3390/ijms21155289.
3. Fingerhut, L, Dolz, G, and **de Buhr, N** (2020). What Is the Evolutionary Fingerprint in Neutrophil Granulocytes? *Int. J. Mol. Sci.*; Vol. 21, page 4523. doi: 10.3390/ijms21124523.

4. Baien SH, Seele J, Henneck T, Freibrodt C, Szura G, Moubasher H, Nau R, Brogden G, Mörgelin M, Singh M, Kietzmann M, von Köckritz-Blickwede M, **de Buhr N** (2020). Antimicrobial and immunomodulatory effect of Gum Arabic on human and bovine granulocytes against *Staphylococcus aureus* and *Escherichia coli*. *Front Immunol.*; 10(Jan):1-18. doi: 10.3389/fimmu.2019.03119.
5. **de Buhr N**, von Köckritz-Blickwede M (2020). Detection, visualization, and quantification of neutrophil extracellular traps (NETs) and NET markers. *Methods Mol Biol.*; 2087:425-442. doi: 10.1007/978-1-0716-0154-9_25.
6. Fingerhut L, Ohnesorge B, von Borstel M, Schumski A, Strutzberg-Minder K, Mörgelin M, Deeg CA, Haagsman HP, Beineke A, von Köckritz-Blickwede M, **de Buhr N** (2019). Neutrophil extracellular traps in the pathogenesis of equine recurrent uveitis (ERU). *Cells.*; 8(12):1-22. doi: 10.3390/cells8121528.
7. Hennig-Pauka I, Imker R, Mayer L, Brüggemann M, Werckenthin C, Weber H, Menrath A, **de Buhr N** (2019). From stable to lab- Investigating key factors for sudden deaths Caused by *Streptococcus suis*. *Pathogens.*; 8(4):249. doi: 10.3390/pathogens8040249.
8. **de Buhr N**, Bonilla MC, Pfeiffer J, Akhdar S, Schwennen C, Kahl BC, Waldmann KH, Valentin-Weigand P, Hennig-Pauka I, von Köckritz-Blickwede M (2019). Degraded neutrophil extracellular traps promote the growth of *Actinobacillus pleuropneumoniae*. *Cell Death Dis.* 10(9):657. doi: 10.1038/s41419-019-1895-4.
9. Baien SH, Langer MN, Heppelmann M, von Köckritz-Blickwede M, **de Buhr N** (2018). Comparison between K3EDTA and lithium heparin as anticoagulant to isolate bovine granulocytes from blood. *Front Immunol.*; 9(Jul):1-13. doi: 10.3389/fimmu.2018.01570.
10. **de Buhr N**, Reuner F, Neumann A, Stump-Guthier C, Tenenbaum T, Schrotten H, Ishikawa H, Müller K, Beineke A, Hennig-Pauka I, Gutschmann T, Valentin-Weigand P, Baums CG, von Köckritz-Blickwede M (2017). Neutrophil extracellular trap formation in the *Streptococcus suis*-infected cerebrospinal fluid compartment. *Cell Microbiol.*; Feb;19(2):1-16. doi: 10.1111/cmi.12649.