

# Curriculum Vitae & List of Publications

## Contact

**Dr. Renke Lühken** Bernhard Nocht Institute for Tropical Medicine Research Group Arbovirus Ecology & Research Group Vector Control 20359 Hamburg, Germany  
[luehken@bnitm.de](mailto:luehken@bnitm.de)

---

## Education

**2011–2015: PhD**, Dr. rer. nat., Carl von Ossietzky University Oldenburg.  
*Final grade (summa cum laude)*

**2010: Study abroad**, Ecology, Massey University, New Zealand.  
*Finished all visited papers with first class pass (A–).*

**2008–2011: Master of Science**, Landscape Ecology, Carl von Ossietzky University Oldenburg.  
*Final grade (1.19).*

**2004–2008: Bachelor of Science**, Environmental Sciences, Carl von Ossietzky University Oldenburg.  
*Final grade (1.64).*

---

## Research Experience

2022–present: Head of the Research Group Vector Control, Bernhard Nocht Institute for Tropical Medicine Hamburg.

2020–present: Head of the BMBF Junior Research Group Arbovirus Ecology, Department of Arbovirology and Entomology, Bernhard Nocht Institute for Tropical Medicine Hamburg.

2019–2020: PostDoc, Research group Arbovirology, University of Hamburg.

2015–2019: PostDoc, Research group Arbovirology, Bernhard Nocht Institute for Tropical Medicine Hamburg.

---

### Third-Party Funding Since 2020

Period	Project	Funder	Amount
2026–2029	Vector-borne disease modelling in Germany — preparing for contemporary and future risk	German Federal Ministry of Education and Research	Own share of €316,595; team of 5 PIs
2025–2029	Climate warming impacts on mosquito transmission traits and control	German Federal Ministry of Education and Research	€1,600,000; sole PI
2024–2027	Climate resilience, and climate vulnerabilities, of mating behaviours in mosquitoes	Leibniz Association	Own share of €250,000; team of 2 PIs
2023–2027	Mosquito research in Germany (CuliFo3)	German Federal Ministry of Agriculture and Food	Own share of €200,000; team of 17 PIs
2022	Early warning system for mosquito-borne diseases	Prize awarded by the European Commission	BNITM share of €100,000; team of 15 PIs
2021–2026	Vector control against emerging viruses transmitted by mosquitoes in the course of global warming	German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection	€346,500; sole PI
2021–2022	West Nile virus in Europe and USA — Findings for preventive healthcare in Germany	German Federal Ministry of Health	Own share of €85,768; team of 2 PIs
2021–2022	Alternative methods for the control of mosquitoes	German Federal Ministry of Health	Own share of €195,033; team of 2 PIs
2020–2025	Near-real time decision tool to respond against emerging mosquito-borne diseases	German Federal Ministry of Education and Research	€1,759,700; sole PI
2020–2022	Diversity Components in Mosquito-Borne Diseases in Face of Climate Change	Federal Ministry of Education and Research	Own share of €255,857; team of 5 PIs

## Publications

Full list of publications available on [Google Scholar](#).

**Google Scholar metrics:** Citations = 3,736 · h-index = 34 · i10-index = 78

### 2026

101: Loc DH, Şuleşco T, Sauer FG, Schmidt-Chanasit J, Velavan TP, **Lühken R**. *Host-feeding patterns of mosquitoes across land use types and regions in Vietnam and its implications for mosquito-borne disease transmission*. Acta Trop. 2026 Mar;275:108001. doi: <https://doi.org/10.1016/j.actatropica.2026.108001>.

### 2025

100: Patzina-Mehling C, Kopp A, Rauhöft L, Şuleşco T, Jones TC, Drosten C, Sauer FG, **Lühken R**, Junglen S. *Genomic surveillance indicates high site-specific heterogeneity of West Nile virus in mosquitoes in rural regions of Germany across seasons*. One Health. 2025 Aug 21;21:101179. doi: <https://doi.org/10.1016/j.onehlt.2025.101179>.

99: Agboli E, Zahouli JZB, Sauer FG, Sombie A, Biré YN, Adjobi CN, Cadar D, Horváth B, Tomazatos A, Schmidt-Chanasit J, **Lühken R**, Tóth GE, Badolo A, Jöst H. *Morphological and genetic heterogeneity in Aedes aegypti (Diptera: Culicidae) populations across diverse landscapes in West Africa*. Ecol Evol. 2025 Dec 17;15(12):e72748. doi: <https://doi.org/10.1002/ece3.72748>.

98: Nolte K, Baumbach J, Lins C, Lohmann JJG, Kollmannsberger P, Sauer FG, Lühken R. *Potentials and limitations in the application of convolutional neural networks for mosquito species identification using wing images*. PLoS Comput Biol. 2025 Sep 5;21(9):e1013435. doi: <https://doi.org/10.1371/journal.pcbi.1013435>.

97: Höller P, **Lühken R**, Sauer FG, Villacañas de Castro C, Becker N, Jöst H, Pfitzner WP, Schmidt-Chanasit J, Heitmann A, Jansen S. *Vector competence of mosquitoes from Europe for Tahyna virus*. Sci Rep. 2025 Jul 11;15(1):25092. doi: <https://doi.org/10.1038/s41598-025-10883-5>.

96: Jansen S, **Lühken R**, Höller P, Mack A, Lange U, Jöst H, Becker N, Heitmann A. *Risk assessment of Oropouche virus transmission by mosquitoes in Europe*. J Infect Dis. 2025 Dec 20;232(6):e916-e919. doi: <https://doi.org/10.1093/infdis/jiaf356>.

95: Villacañas de Castro C, Musculus J, Timmermann E, **Lühken R**, Kiel E, Sauer FG. *Carry-over effects in Culex species along a land use gradient with differences in microclimatic conditions*. Parasit Vectors. 2025 Jul 4;18(1):256. doi: <https://doi.org/10.1186/s13071-025-06903-y>.

94: Hattendorf C, **Lühken R**. *Vectors, host range, and spatial distribution of Dirofilaria immitis and D. repens in Europe: a systematic review*. Infect Dis Poverty. 2025 Jul 2;14(1):58. doi: <https://doi.org/10.1186/s40249-025-01328-2>.

93: Bourquia M, Zahri A, Ahlamine M, Balenghien T, Meyer P, Sauer FG, **Lühken R**. *First molecular confirmation of the presence of Hippobosca longipennis (Diptera: Hippoboscidae) and infestation of sheltered dogs in Morocco*. Parasit Vectors. 2025 May 27;18(1):193. doi: <https://doi.org/10.1186/s13071-025-06830-y>.

92: Jansen S, Cadar D, Hey JC, Helms M, Lange U, Horváth B, Jöst H, Pfitzner W-P, Schmidt-Chanasit J, **Lühken R**, Heitmann A. *The impact of temperature and insect-specific viruses on the transmission of alphaviruses by Aedes japonicus japonicus*. Microbiol Spectr. 2025 Jun 3;13(6):e0266824. doi: <https://doi.org/10.1128/spectrum.02668-24>.

91: Nolte K, Agboli E, Garcia GA, Badolo A, Becker N, Loc DH, Dworak TV, Eguchi J, Eisenbarth A, de Freitas RM, Doumna-Ndalembouly AG, Heitmann A, Jansen S, Jöst A, Jöst H, Kiel E, Meyer A, Pfitzner WP, Saathoff J, Schmidt-Chanasit J, Sulesco T, Tokatlian A, Velavan TP, Villacañas de Castro C, Wehmeyer ML, Zahouli J, Sauer FG, **Lühken R**. *Comprehensive mosquito wing image repository for advancing research on geometric morphometric- and AI-Based identification*. Sci Data. 2025 Apr 29;12(1):715. doi: <https://doi.org/10.1038/s41597-025-05043-3>.

## 2024

90: **Lühken R**, Rauhöft L, Pluskota B, Lange U, Helms M, Becker N, Schmidt-Chanasit J, Kuhn C, Tannich E, Jansen S, Heitmann A. *High vector competence for chikungunya virus but heavily reduced locomotor activity of Aedes albopictus from Germany at low temperatures*. Parasit Vectors. 2024 Dec 4;17(1):502. doi: <https://doi.org/10.1186/s13071-024-06594-x>.

89: Schopf F, Sadeghi B, Bergmann F, Fischer D, Rahner R, Müller K, Günther A, Globig A, Keller M, Schwehn R, Guddorf V, Reuschel M, Fischer L, Krone O, Rinder M, Schütte K, Schmidt V, Heenemann K, Schwarzer A, Fast C, Sauter-Louis C, Staubach C, **Lühken R**, Schmidt-Chanasit J, Brandes F, Lierz M, Korbel R, Vahlenkamp TW, Groschup MH, Ziegler U. *Circulation of West Nile virus and Usutu virus in birds in Germany, 2021 and 2022*. Infect Dis (Lond). 2025 Mar;57(3):256-277. doi: <https://doi.org/10.1080/23744235.2024.2419859>.

88: Grabow M, Ullmann W, Landgraf C, Sollmann R, Scholz C, Nathan R, Toledo S, **Lühken R**, Fickel J, Jeltsch F, Blaum N, Radchuk V, Tiedemann R, Kramer-Schadt S. *Sick without signs. Subclinical infections reduce local movements, alter habitat selection, and cause demographic shifts*. Commun Biol. 2024 Nov 1;7(1):1426. doi: <https://doi.org/10.1038/s42003-024-07114-4>.

87: Hattendorf C, Cadar D, Bosch S, Becker N, Lachmann L, Schmidt-Chanasit J, Heitmann A, **Lühken R**. *Weak association of Usutu virus and haemosporidian infection in birds collected in Germany*. One Health. 2024 Aug 2;19:100868. doi: <https://doi.org/10.1016/j.onehlt.2024.100868>.

86: Nolte K, Sauer FG, Baumbach J, Kollmannsberger P, Lins C, **Lühken R**. *Robust mosquito species identification from diverse body and wing images using deep learning*. Parasit Vectors. 2024 Sep 2;17(1):372. doi: <https://doi.org/10.1186/s13071-024-06459-3>.

85: Wehmeyer ML, Jaworski L, Jöst H, Şuleşco T, Rauhöft L, Afonso SMM, Neumann M, Kliemke K, Lange U, Kiel E, Schmidt-Chanasit J, Sauer FG, **Lühken R**. *Host attraction and host feeding patterns indicate generalist feeding of Culex pipiens s.s. and Cx. torrentium*. Parasit Vectors. 2024 Aug 30;17(1):369. doi: <https://doi.org/10.1186/s13071-024-06439-7>.

84: Vanslebrouck A, Jansen S, De Witte J, Janssens C, Vereecken S, Helms M, Lange U, **Lühken R**, Schmidt-Chanasit J, Heitmann A, Müller R. *Larval competition between Aedes and Culex mosquitoes carries over to higher arboviral infection during their adult stage*. Viruses. 2024 Jul 26;16(8):1202. doi: <https://doi.org/10.3390/v16081202>.

- 83: Rauhöft L, Şuleşco T, Martins Afonso SM, Schmidt-Chanasit J, Jöst H, Sauer FG, **Lühken R**. *Large-scale performance assessment of the BG-Counter 2 used with two different mosquito traps*. Parasit Vectors. 2024 Jun 27;17(1):273. doi: <https://doi.org/10.1186/s13071-024-06338-x>.
- 82: Heitmann A, Wehmeyer ML, **Lühken R**, Kliemke K, Jöst H, Becker N, Helms M, Schmidt-Chanasit J, Jansen S. *Evaluation of the vector competence for Batai virus of native Culex and exotic Aedes species in Central Europe*. Parasit Vectors. 2024 May 15;17(1):223. doi: <https://doi.org/10.1186/s13071-024-06296-4>.
- 81: Maciel-de-Freitas R, Sauer FG, Kliemke K, Garcia GA, Pavan MG, David MR, Schmidt-Chanasit J, Hoffmann A, **Lühken R**. *Wolbachia strains wmel and walbb differentially affect Aedes aegypti traits related to fecundity*. Microbiol Spectr. 2024 Apr 2;12(4):e0012824. doi: <https://doi.org/10.1128/spectrum.00128-24>.
- 80: Jansen S, Höller P, Helms M, Lange U, Becker N, Schmidt-Chanasit J, **Lühken R**, Heitmann A. *Mosquitoes from europe are able to transmit snowshoe hare virus*. Viruses. 2024 Jan 31;16(2):222. doi: <https://doi.org/10.3390/v16020222>.
- 79: Sauer FG, Werny M, Nolte K, Villacañas de Castro C, Becker N, Kiel E, Lühken R. *A convolutional neural network to identify mosquito species (Diptera: Culicidae) of the genus Aedes by wing images*. Sci Rep. 2024 Feb 7;14(1):3094. doi: <https://doi.org/10.1038/s41598-024-53631-x>.
- 78: Duve P, Charles S, Munyakazi J, **Lühken R**, Witbooi P. *A mathematical model for malaria disease dynamics with vaccination and infected immigrants*. Math Biosci Eng. 2024 Jan;21(1):1082-1109. doi: <https://doi.org/10.3934/mbe.2024045>.

## 2023

- 77: Kniha E, Dvořák V, Koblmüller S, Prudhomme J, Ivočić V, Hoxha I, Oerther S, Heitmann A, **Lühken R**, Bañuls AL, Sereno D, Michelutti A, Toniolo F, Alarcón-Elbal PM, Bravo-Barriga D, González MA, Lucientes J, Colella V, Otranto D, Bezerra-Santos MA, Kunz G, Obwaller AG, Depaquit J, Alić A, Kasap OE, Alten B, Omeragic J, Volf P, Walochnik J, Sebestyén V, Trájer AJ. *Reconstructing the post-glacial spread of the sand fly Phlebotomus mascittii Grassi, 1908 (Diptera: Psychodidae) in Europe*. Commun Biol. 2023 Dec 8;6(1):1244. doi: <https://doi.org/10.1038/s42003-023-05616-1>.
- 76: **Lühken R**, Brattig N, Becker N. *Introduction of invasive mosquito species into Europe and prospects for arbovirus transmission and vector control in an era of globalization*. Infect Dis Poverty. 2023 Nov 30;12(1):109. doi: <https://doi.org/10.1186/s40249-023-01167-z>.
- 75: Sauer FG, Pfitzner WP, Jöst H, Rauhöft L, Kliemke K, Lange U, Heitmann A, Jansen S, **Lühken R**. *Using geometric wing morphometrics to distinguish Aedes japonicus japonicus and Aedes koreicus*. Parasit Vectors. 2023 Nov 15;16(1):418. doi: <https://doi.org/10.1186/s13071-023-06038-y>.
- 74: **Lühken R**, Becker N, Dyczko D, Sauer FG, Kliemke K, Schmidt-Chanasit J, Rydzanicz K. *First record of Anopheles (Anopheles) hyrcanus (Pallas 1771) (Diptera: Culicidae) in Poland*. Parasit Vectors. 2023 Oct 4;16(1):345. doi: <https://doi.org/10.1186/s13071-023-05974-z>.
- 73: Hounkanrin G, Tchibozo C, Sauer FG, Agboli E, Schmidt-Chanasit J, Yadouleton A, **Lühken R**, Jöst H. *Genetic diversity and wing geometric morphometrics among four populations of Aedes aegypti (Diptera: Culicidae) from Benin*. Parasit Vectors. 2023 Sep 9;16(1):320. doi: <https://doi.org/10.1186/s13071-023-05943-6>.

72: Sauer FG, Lange U, Schmidt-Chanasit J, Kiel E, Wiatrowska B, Myczko Ł, **Lühken R**. *Overwintering Culex torrentium in abandoned animal burrows as a reservoir for arboviruses in Central Europe*. One Health. 2023 May 29;16:100572. doi: <https://doi.org/10.1016/j.onehlt.2023.100572>.

71: Jansen S, Heitmann A, Uusitalo R, Korhonen EM, **Lühken R**, Kliemke K, Lange U, Helms M, Kirjalainen L, Nykänen R, Gregow H, Pirinen P, Rossini G, Vapalahti O, Schmidt-Chanasit J, Huhtamo E. *Vector competence of northern European Culex pipiens biotype pipiens and Culex torrentium to West Nile virus and Sindbis virus*. Viruses. 2023 Feb 21;15(3):592. doi: <https://doi.org/10.3390/v15030592>.

70: Miranda MÁ, Barceló C, Arnoldi D, Augsten X, Bakran-Lebl K, Balatsos G, Bengoa M, Bindler P, Boršová K, Bourquia M, Bravo-Barriga D, Čabanová V, Caputo B, Christou M, Delacour S, Eritja R, Fassi-Fihri O, Ferraguti M, Flacio E, Frontera E, Fuehrer HP, García-Pérez AL, Georgiades P, Gewehr S, Goiri F, González MA, Gschwind M, Gutiérrez-López R, Horváth C, Ibáñez-Justicia A, Jani V, Kadriaj P, Kalan K, Kavran M, Klobucar A, Kurucz K, Lucientes J, **Lühken R**, Magallanes S, Marini G, Martinou AF, Michelutti A, Mihalca AD, Montalvo T, Montarsi F, Mourelatos S, Muja-Bajraktari N, Müller P, Notarides G, Osório HC, Oteo JA, Oter K, Pajović I, Palmer JRB, Petrinic S, Răileanu C, Ries C, Rogozi E, Ruiz-Arrondo I, Sanpera-Calbet I, Sekulić N, Sevim K, Sherifi K, Silaghi C, Silva M, Sokolovska N, Soltész Z, Sulesco T, Šušnjar J, Teekema S, Valsecchi A, Vasquez MI, Velo E, Michaelakis A, Wint W, Petrić D, Schaffner F, Della Torre A; Consortium AIM-COST/AIM-Surv. *AIMSurv: first pan-European harmonized surveillance of Aedes invasive mosquito species of relevance for human vector-borne diseases*. GigaByte. 2022 May 31;2022:gigabyte57. doi: <https://doi.org/10.46471/gigabyte.57>.

69: Tolsá-García MJ, Wehmeyer ML, **Lühken R**, Roiz D. *Worldwide transmission and infection risk of mosquito vectors of West Nile, St. Louis encephalitis, Usutu and Japanese encephalitis viruses: a systematic review*. Sci Rep. 2023 Jan 6;13(1):308. doi: <https://doi.org/10.1038/s41598-022-27236-1>.

## 2022

68: Jansen S, **Lühken R**, Helms M, Pluskota B, Pfitzner WP, Oerther S, Becker N, Schmidt-Chanasit J, Heitmann A. *Vector competence of mosquitoes from Germany for sindbis virus*. Viruses. 2022 Nov 26;14(12):2644. doi: <https://doi.org/10.3390/v14122644>.

67: Tchibozo C, Hounkanrin G, Yadouleton A, Bialonski A, Agboli E, **Lühken R**, Schmidt-Chanasit J, Jöst H. *Surveillance of arthropod-borne viruses in Benin, West Africa 2020-2021: detection of dengue virus 3 in Aedes aegypti (Diptera: Culicidae)*. Mil Med Res. 2022 Nov 14;9(1):64. doi: <https://doi.org/10.1186/s40779-022-00425-9>.

66: Agboli E, Tomazatos A, Maiga-Ascofaré O, May J, **Lühken R**, Schmidt-Chanasit J, Jöst H. *Arbovirus epidemiology: the mystery of unnoticed epidemics in Ghana, West Africa*. Microorganisms. 2022 Sep 27;10(10):1914. doi: <https://doi.org/10.3390/microorganisms10101914>.

65: Sauer FG, Kiel E, **Lühken R**. *Effects of mosquito resting site temperatures on the estimation of pathogen development rates in near-natural habitats in Germany*. Parasit Vectors. 2022 Oct 25;15(1):390. doi: <https://doi.org/10.1186/s13071-022-05505-2>.

64: Menegon M, Tomazatos A, Severini F, Raele DA, Lilja T, Werner D, Boccolini D, Toma L, Vasco I, **Lühken R**, Kampen H, Cafiero MA, Di Luca M. *Molecular characterization of Anopheles algeriensis theobald, 1903 (Diptera: Culicidae) populations from Europe*. Pathogens. 2022 Aug 30;11(9):990. doi: <https://doi.org/10.3390/pathogens11090990>.



- 63: Sauer FG, Timmermann E, Lange U, **Lühken R**, Kiel E. *Effects of hibernation site, temperature, and humidity on the abundance and survival of overwintering Culex pipiens pipiens and Anopheles messeae (Diptera: Culicidae)*. J Med Entomol. 2022 Nov 16;59(6):2013-2021. doi: <https://doi.org/10.1093/jme/tjac139>.
- 62: Fynmore N, **Lühken R**, Kliemke K, Lange U, Schmidt-Chanasit J, Lurz PWW, Becker N. *Honey-baited FTA cards in box gravid traps for the assessment of Usutu virus circulation in mosquito populations in Germany*. Acta Trop. 2022 Nov;235:106649. doi: <https://doi.org/10.1016/j.actatropica.2022.106649>.
- 61: Becker N, Langentepe-Kong SM, Tokatlian Rodriguez A, Oo TT, Reichle D, **Lühken R**, Schmidt-Chanasit J, Lüthy P, Puggioli A, Bellini R. *Integrated control of Aedes albopictus in southwest Germany supported by the sterile insect technique*. Parasit Vectors. 2022 Jan 5;15(1):9. doi: <https://doi.org/10.1186/s13071-021-05112-7>.
- 60: Jansen S, Cadar D, **Lühken R**, Pfitzner WP, Jöst H, Oerther S, Helms M, Zibrat B, Kliemke K, Becker N, Vapalahti O, Rossini G, Heitmann A. *Vector competence of the invasive mosquito species Aedes koreicus for arboviruses and interference with a novel insect specific virus*. Viruses. 2021 Dec 14;13(12):2507. doi: <https://doi.org/10.3390/v13122507>.
- 59: Jaworski L, Sauer F, Jansen S, Tannich E, Schmidt-Chanasit J, Kiel E, Lühken R. *Artificial resting sites: an alternative sampling method for adult mosquitoes*. Med Vet Entomol. 2022 Jun;36(2):139-148. doi: <https://doi.org/10.1111/mve.12559>.
- 58: Şuleşco T, Buşmachi G, Lange U, Schmidt-Chanasit J, **Lühken R**. *The first record of the invasive mosquito species Aedes albopictus in Chişinău, Republic of Moldova, 2020*. Parasit Vectors. 2021 Nov 3;14(1):565. doi: <https://doi.org/10.1186/s13071-021-05060-2>.

## 2021

- 57: Fynmore N, **Lühken R**, Maisch H, Risch T, Merz S, Kliemke K, Ziegler U, Schmidt-Chanasit J, Becker N. *Rapid assessment of West Nile virus circulation in a German zoo based on honey-baited FTA cards in combination with box gravid traps*. Parasit Vectors. 2021 Sep 6;14(1):449. doi: <https://doi.org/10.1186/s13071-021-04951-8>.
- 56: Tomazatos A, von Possel R, Pekarek N, Holm T, Rieger T, Baum H, Bialonski A, Maranda I, Erdelyi-Molnár I, Spînu M, **Lühken R**, Jansen S, Emmerich P, Schmidt-Chanasit J, Cadar D. *Discovery and genetic characterization of a novel orthonairovirus in Ixodes ricinus ticks from Danube Delta*. Infect Genet Evol. 2021 Mar;88:104704. doi: <https://doi.org/10.1016/j.meegid.2021.104704>.
- 55: Sauer FG, Grave J, **Lühken R**, Kiel E. *Habitat and microclimate affect the resting site selection of mosquitoes*. Med Vet Entomol. 2021 Sep;35(3):379-388. doi: <https://doi.org/10.1111/mve.12506>.

## 2020

- 54: Sauer FG, Jaworski L, Erdbeer L, Heitmann A, Schmidt-Chanasit J, Kiel E, **Lühken R**. *Geometric morphometric wing analysis represents a robust tool to identify female mosquitoes (Diptera: Culicidae) in Germany*. Sci Rep. 2020 Oct 19;10(1):17613. doi: <https://doi.org/10.1038/s41598-020-72873-z>.

- 53: Sauer FG, Jaworski L, **Lühken R**, Kiel E. *Impacts of sampling rhythm and exposition on the effectiveness of artificial resting shelters for mosquito collection in northern Germany*. J Vector Ecol. 2020 Jun;45(1):142-146. doi: <https://doi.org/10.1111/jvec.12383>.
- 52: Ziegler U, Santos PD, Groschup MH, Hattendorf C, Eiden M, Höper D, Eisermann P, Keller M, Michel F, Klopffleisch R, Müller K, Werner D, Kampen H, Beer M, Frank C, Lachmann R, Tews BA, Wylezich C, Rinder M, Lachmann L, Grünewald T, Szentiks CA, Sieg M, Schmidt-Chanasit J, Cadar D, **Lühken R**. *West Nile virus epidemic in Germany triggered by epizootic emergence, 2019*. Viruses. 2020 Apr 15;12(4):448. doi: <https://doi.org/10.3390/v12040448>.
- 51: Oerther S, Jöst H, Heitmann A, **Lühken R**, Krüger A, Steinhausen I, Brinker C, Lorentz S, Marx M, Schmidt-Chanasit J, Naucke T, Becker N. *Phlebotomine sand flies in southwest Germany: an update with records in new locations*. Parasit Vectors. 2020 Apr 21;13(1):173. doi: <https://doi.org/10.1186/s13071-020-04058-6>.
- 50: Cuéllar AC, Kjær LJ, Baum A, Stockmarr A, Skovgard H, Nielsen SA, Andersson MG, Lindström A, Chirico J, **Lühken R**, Steinke S, Kiel E, Gethmann J, Conraths FJ, Larska M, Smreczak M, Orłowska A, Hammes I, Sviland S, Hopp P, Brugger K, Rubel F, Balenghien T, Garros C, Rakotoarivony I, Allène X, Lhoir J, Chavernac D, Delécolle JC, Mathieu B, Delécolle D, Setier-Rio ML, Scheid B, Chueca MÁM, Barceló C, Lucientes J, Estrada R, Mathis A, Venail R, Tack W, Bødker R. *Modelling the monthly abundance of Culicoides biting midges in nine European countries using random forests machine learning*. Parasit Vectors. 2020 Apr 15;13(1):194. doi: <https://doi.org/10.1186/s13071-020-04053-x>.
- 49: Parry R, Naccache F, Ndiaye EH, Fall G, Castelli I, **Lühken R**, Medlock J, Cull B, Hesson JC, Montarsi F, Failloux AB, Kohl A, Schnettler E, Diallo M, Asgari S, Dietrich I, Becker SC. *Identification and RNAi profile of a novel iflavivirus infecting senegalese Aedes vexans arabiensis mosquitoes*. Viruses. 2020 Apr 14;12(4):440. doi: <https://doi.org/10.3390/v12040440>.
- 48: Tomazatos A, Marschang RE, Maranda I, Baum H, Bialonski A, Spînu M, Lühken R, Schmidt-Chanasit J, Cadar D. *Letea virus: comparative genomics and phylogenetic analysis of a novel reassortant orbivirus discovered in grass snakes (Natrix natrix)*. Viruses. 2020 Feb 21;12(2):243. doi: <https://doi.org/10.3390/v12020243>.
- 47: Tomazatos A, Jöst H, Schulze J, Spînu M, Schmidt-Chanasit J, Cadar D, Lühken R. *Blood-meal analysis of Culicoides (Diptera: Ceratopogonidae) reveals a broad host range and new species records for Romania*. Parasit Vectors. 2020 Feb 17;13(1):79. doi: <https://doi.org/10.1186/s13071-020-3938-1>.
- 46: **Lühken R**, Heitmann A, Jansen S, Schmidt-Chanasit J, Börstler J, Werner D, Kampen H, Kuhn C, Pluskota B, Ferstl I, Jöst A, Becker N, Tannich E. *Microsatellite typing of Aedes albopictus (Diptera: Culicidae) populations from Germany suggests regular introductions*. Infect Genet Evol. 2020 Jul;81:104237. doi: <https://doi.org/10.1016/j.meegid.2020.104237>.

## 2019

- 45: Tomazatos A, Jansen S, Pfister S, Török E, Maranda I, Horváth C, Keresztes L, Spînu M, Tannich E, Jöst H, Schmidt-Chanasit J, Cadar D, **Lühken R**. *Ecology of West Nile virus in the Danube Delta, Romania: phylogeography, xenosurveillance and mosquito host-feeding patterns*. Viruses. 2019 Dec 14;11(12):1159. doi: <https://doi.org/10.3390/v11121159>.



- 44: Wichers JS, Scholz JAM, Strauss J, Witt S, Lill A, Ehnold LI, Neupert N, Liffner B, **Lühken R**, Petter M, Lorenzen S, Wilson DW, Löw C, Lavazec C, Bruchhaus I, Tannich E, Gilberger TW, Bachmann A. \_Dissecting the gene expression, localization, membrane topology, and function of the Plasmodium falciparum STEVOR protein family\*. *mbio*. 2019 Jul 30;10(4):e01500-19. doi: <https://doi.org/10.1128/mbio.01500-19>.
- 43: Michel F, Sieg M, Fischer D, Keller M, Eiden M, Reuschel M, Schmidt V, Schwehn R, Rinder M, Urbaniak S, Müller K, Schmoock M, *Lühken R*, Wysocki P, Fast C, Lierz M, Korbel R, Vahlenkamp TW, Groschup MH, Ziegler U. \*Evidence for West Nile virus and Usutu virus infections in wild and resident birds in Germany, 2017 and 2018\_. *Viruses*. 2019 Jul 23;11(7):674. doi: <https://doi.org/10.3390/v11070674>.
- 42: Jaworski L, Jansen S, Pfitzner WP, Beck M, Becker N, Schmidt-Chanasit J, Kiel E, **Lühken R**. *Comparative analysis of subsampling methods for large mosquito samples*. *Parasit Vectors*. 2019 Jul 16;12(1):354. doi: <https://doi.org/10.1186/s13071-019-3606-5>.
- 41: Jansen S, Heitmann A, **Lühken R**, Leggewie M, Helms M, Badusche M, Rossini G, Schmidt-Chanasit J, Tannich E. *Culex torrentium: a potent vector for the transmission of West Nile virus in Central Europe*. *Viruses*. 2019 May 29;11(6):492. doi: <https://doi.org/10.3390/v11060492>.
- 40: Drehmann M, Chitimia-Dobler L, Lindau A, Frank A, Mai S, Fachet K, Hauck D, Knoll S, Strube C, **Lühken R**, Fischer D, Ziegler L, Mackenstedt U. *Ixodes frontalis: a neglected but ubiquitous tick species in Germany*. *Exp Appl Acarol*. 2019 May;78(1):79-91. doi: <https://doi.org/10.1007/s10493-019-00375-3>.

## 2018

- 39: Shahhosseini N, Friedrich J, Moosa-Kazemi SH, Sedaghat MM, Kayedi MH, Tannich E, Schmidt-Chanasit J, **Lühken R**. *Host-feeding patterns of Culex mosquitoes in Iran*. *Parasit Vectors*. 2018 Dec 27;11(1):669. doi: <https://doi.org/10.1186/s13071-018-3237-2>.
- 38: Ziegler U, **Lühken R**, Keller M, Cadar D, van der Grinten E, Michel F, Albrecht K, Eiden M, Rinder M, Lachmann L, Höper D, Vina-Rodriguez A, Gaede W, Pohl A, Schmidt-Chanasit J, Groschup MH. *West Nile virus epizootic in Germany, 2018*. *Antiviral Res*. 2019 Feb;162:39-43. doi: <https://doi.org/10.1016/j.antiviral.2018.12.005>.
- 37: Cuéllar AC, Jung Kjær L, Baum A, Stockmarr A, Skovgard H, Nielsen SA, Andersson MG, Lindström A, Chirico J, **Lühken R**, Steinke S, Kiel E, Gethmann J, Conraths FJ, Larska M, Smreczak M, Orłowska A, Hamnes I, Sviland S, Hopp P, Brugger K, Rubel F, Balenghien T, Garros C, Rakotoarivony I, Allène X, Lhoir J, Chavernac D, Delécolle JC, Mathieu B, Delécolle D, Setier-Rio ML, Venail R, Scheid B, Chueca MÁM, Barceló C, Lucientes J, Estrada R, Mathis A, Tack W, Bødker R. *Monthly variation in the probability of presence of adult Culicoides populations in nine European countries and the implications for targeted surveillance*. *Parasit Vectors*. 2018 Nov 29;11(1):608. doi: <https://doi.org/10.1186/s13071-018-3182-0>.
- 36: Jansen S, Heitmann A, **Lühken R**, Jöst H, Helms M, Vapalahti O, Schmidt-Chanasit J, Tannich E. *Experimental transmission of Zika virus by Aedes japonicus japonicus from southwestern Germany*. *Emerg Microbes Infect*. 2018 Nov 28;7(1):192. doi: <https://doi.org/10.1038/s41426-018-0195-x>.
- 35: Cheng Y, Tjaden NB, Jaeschke A, **Lühken R**, Ziegler U, Thomas SM, Beierkuhnlein C. *Evaluating the risk for Usutu virus circulation in Europe: comparison of environmental niche models*

and epidemiological models. *Int J Health Geogr.* 2018 Oct 12;17(1):35. doi: <https://doi.org/10.1186/s12942-018-0155-7>.

34: Heitmann A, Jansen S, **Lühken R**, Leggewie M, Schmidt-Chanasit J, Tannich E. *Forced salivation as a method to analyze vector competence of mosquitoes.* *J Vis Exp.* 2018 Aug 7;(138):57980. doi: <https://doi.org/10.3791/57980>.

33: Heitmann A, Jansen S, **Lühken R**, Helms M, Pluskota B, Becker N, Kuhn C, Schmidt-Chanasit J, Tannich E. *Experimental risk assessment for chikungunya virus transmission based on vector competence, distribution and temperature suitability in Europe, 2018.* *Euro Surveill.* 2018 Jul;23(29):1800033. doi: <https://doi.org/10.2807/1560-7917.ES.2018.23.29.1800033>.

32: Tomazatos A, Cadar D, Török E, Maranda I, Horváth C, Keresztes L, Spinu M, Jansen S, Jöst H, Schmidt-Chanasit J, Tannich E, **Lühken R**. *Circulation of *Dirofilaria immitis* and *Dirofilaria repens* in the Danube Delta Biosphere Reserve, Romania.* *Parasit Vectors.* 2018 Jul 4;11(1):392. doi: <https://doi.org/10.1186/s13071-018-2980-8>.

31: Cuéllar AC, Kjær LJ, Kirkeby C, Skovgard H, Nielsen SA, Stockmarr A, Andersson G, Lindstrom A, Chirico J, **Lühken R**, Steinke S, Kiel E, Gethmann J, Conraths FJ, Larska M, Hamnes I, Sviland S, Hopp P, Brugger K, Rubel F, Balenghien T, Garros C, Rakotoarivony I, Allène X, Lhoir J, Chavernac D, Delécolle JC, Mathieu B, Delécolle D, Setier-Rio ML, Venail R, Scheid B, Chueca MÁM, Barceló C, Lucientes J, Estrada R, Mathis A, Tack W, Bødker R. *Spatial and temporal variation in the abundance of *Culicoides* biting midges (Diptera: Ceratopogonidae) in nine European countries.* *Parasit Vectors.* 2018 Feb 27;11(1):112. doi: <https://doi.org/10.1186/s13071-018-2706-y>.

30: Michel F, Fischer D, Eiden M, Fast C, Reuschel M, Müller K, Rinder M, Urbaniak S, Brandes F, Schwehn R, **Lühken R**, Groschup MH, Ziegler U. *West Nile virus and Usutu virus monitoring of wild birds in Germany.* *Int J Environ Res Public Health.* 2018 Jan 22;15(1):171. doi: <https://doi.org/10.3390/ijerph15010171>.

## 2017

29: **Lühken R**, Jöst H, Cadar D, Thomas SM, Bosch S, Tannich E, Becker N, Ziegler U, Lachmann L, Schmidt-Chanasit J. *Distribution of Usutu virus in Germany and its effect on breeding bird populations.* *Emerg Infect Dis.* 2017 Dec;23(12):1994-2001. doi: <https://doi.org/10.3201/eid2312.171257>.

28: Shahhosseini N, **Lühken R**, Jöst H, Jansen S, Börstler J, Rieger T, Krüger A, Yadouleton A, de Mendonça Campos R, Cirne-Santos CC, Ferreira DF, Garms R, Becker N, Tannich E, Cadar D, Schmidt-Chanasit J. *Detection and characterization of a novel rhabdovirus in *Aedes cantans* mosquitoes and evidence for a mosquito-associated new genus in the family Rhabdoviridae.* *Infect Genet Evol.* 2017 Nov;55:260-268. doi: <https://doi.org/10.1016/j.meegid.2017.09.026>.

27: Shahhosseini N, Chinikar S, Moosa-Kazemi SH, Sedaghat MM, Kayedi MH, Lühken R, Schmidt-Chanasit J. *West Nile virus lineage-2 in *Culex* specimens from Iran.* *Trop Med Int Health.* 2017 Oct;22(10):1343-1349. doi: <https://doi.org/10.1111/tmi.12935>.

26: Cadar D, **Lühken R**, van der Jeugd H, Garigliany M, Ziegler U, Keller M, Lahoreau J, Lachmann L, Becker N, Kik M, Oude Munnink BB, Bosch S, Tannich E, Linden A, Schmidt V, Koopmans MP, Rijks J, Desmecht D, Groschup MH, Reusken C, Schmidt-Chanasit J. *Widespread activity of multiple lineages of Usutu virus, Western Europe, 2016.* *Euro Surveill.* 2017 Jan 26;22(4):30452. doi: <https://doi.org/10.2807/1560-7917.ES.2017.22.4.30452>.

25: Heitmann A, Jansen S, **Lühken R**, Leggewie M, Badusche M, Pluskota B, Becker N, Vapalahti O, Schmidt-Chanasit J, Tannich E. *Experimental transmission of Zika virus by mosquitoes from Central Europe*. Euro Surveill. 2017 Jan 12;22(2):30437. doi: <https://doi.org/10.2807/1560-7917.ES.2017.22.2.30437>.

## 2016

24: Şuleşco T, von Thien H, Toderas L, Toderas I, **Lühken R**, Tannich E. *Circulation of *Dirofilaria repens* and *Dirofilaria immitis* in Moldova*. Parasit Vectors. 2016 Dec 3;9(1):627. doi: <https://doi.org/10.1186/s13071-016-1916-4>.

23: Börstler J, Jöst H, Garms R, Krüger A, Tannich E, Becker N, Schmidt-Chanasit J, **Lühken R**. *Host-feeding patterns of mosquito species in Germany*. Parasit Vectors. 2016 Jun 3;9(1):318. doi: <https://doi.org/10.1186/s13071-016-1597-z>.

22: **Lühken R**, Gethmann JM, Kranz P, Steffenhagen P, Staubach C, Conraths FJ, Kiel E. *Comparison of single- and multi-scale models for the prediction of the *Culicoides* biting midge distribution in Germany*. Geospat Health. 2016 May 31;11(2):405. doi: <https://doi.org/10.4081/gh.2016.405>.

21: Steinke S, **Lühken R**, Kiel E. *Impact of experimental flooding on larvae and pupae of dung-breeding *Culicoides**. Parasitol Res. 2016 Oct;115(10):3825-30. doi: <https://doi.org/10.1007/s00436-016-5144-9>.

20: Steinke S, **Lühken R**, Kroischke F, Timmermann E, Kiel E. *Comparison of emergence traps of different shape and translucency in the trapping of *Culicoides* (Diptera: Ceratopogonidae)*. Vet Parasitol. 2016 Jun 15;223:143-6. doi: <https://doi.org/10.1016/j.vetpar.2016.04.037>.

19: Şuleşco T, Volkova T, Yashkova S, Tomazatos A, von Thien H, **Lühken R**, Tannich E. *Detection of *Dirofilaria repens* and *Dirofilaria immitis* DNA in mosquitoes from Belarus*. Parasitol Res. 2016 Sep;115(9):3535-41. doi: <https://doi.org/10.1007/s00436-016-5118-y>.

18: Török E, Tomazatos A, Cadar D, Horváth C, Keresztes L, Jansen S, Becker N, Kaiser A, Popescu O, Schmidt-Chanasit J, Jöst H, **Lühken R**. *Pilot longitudinal mosquito surveillance study in the Danube Delta Biosphere Reserve and the first reports of *Anopheles algeriensis* Theobald, 1903 and *Aedes hungaricus* Mihályi, 1955 for Romania*. Parasit Vectors. 2016 Apr 11;9:196. doi: <https://doi.org/10.1186/s13071-016-1484-7>.

17: Börstler J, Engel D, Petersen M, Poggensee C, Jansen S, Schmidt-Chanasit J, **Lühken R**. *Surveillance of maternal antibodies against West Nile virus in chicken eggs in South-West Germany*. Trop Med Int Health. 2016 May;21(5):687-90. doi: <https://doi.org/10.1111/tmi.12676>.

16: Engel D, Jöst H, Wink M, Börstler J, Bosch S, Garigliany MM, Jöst A, Czajka C, **Lühken R**, Ziegler U, Groschup MH, Pfeffer M, Becker N, Cadar D, Schmidt-Chanasit J. *Reconstruction of the evolutionary history and dispersal of Usutu virus, a neglected emerging arbovirus in Europe and Africa\**. mBio. 2016 Feb 2;7(1):e01938-15. doi: <https://doi.org/10.1128/mBio.01938-15>.

15: **Lühken R**, Czajka C, Steinke S, Jöst H, Schmidt-Chanasit J, Pfitzner W, Becker N, Kiel E, Krüger A, Tannich E. *\*Distribution of individual members of the mosquito *Anopheles maculipennis* complex in Germany identified by newly developed real-time PCR assays\_*. Med Vet Entomol. 2016 Jun;30(2):144-54. doi: <https://doi.org/10.1111/mve.12161>.

14: Steinke S, **Lühken R**, Balczun C, Kiel E. *Emergence of Culicoides obsoletus group species from farm-associated habitats in Germany*. Med Vet Entomol. 2016 Jun;30(2):174-84. doi: <https://doi.org/10.1111/mve.12159>.

## 2015

13: **Lühken R**, Steinke S, Hoppe N, Kiel E. *Effects of temperature and photoperiod on the development of overwintering immature Culicoides chiopterus and C\*. dewulfi*. Vet Parasitol. 2015 Nov 30;214(1-2):195-9. doi: <https://doi.org/10.1016/j.vetpar.2015.10.001>.

12: **Lühken R**, Steinke S, Leggewie M, Tannich E, Krüger A, Becker S, Kiel E. *Physico-chemical characteristics of Culex pipiens sensu lato and Culex torrentium (Diptera: Culicidae) breeding sites in Germany*. J Med Entomol. 2015 Sep;52(5):932-6. doi: <https://doi.org/10.1093/jme/tjv070>.

11: Steinke S, **Lühken R**, Kiel E. *Impact of freezing on the emergence of Culicoides chiopterus and Culicoides dewulfi from bovine dung*. Vet Parasitol. 2015 Apr 15;209(1-2):146-9. doi: <https://doi.org/10.1016/j.vetpar.2015.01.027>.

10: **Lühken R**, Kiel E, Steinke S, Fladung R. *Topsoil conditions correlate with the emergence rates of Culicoides chiopterus and Culicoides dewulfi (Diptera: Ceratopogonidae) from cowpats*. Parasitol Res. 2015 Mar;114(3):1113-7. doi: <https://doi.org/10.1007/s00436-014-4284-z>.

## 2014

9: **Lühken R**, Kiel E, Steinke S. *Culicoides biting midge density in relation to the position and substrate temperature in a cattle dung heap*. Parasitol Res. 2014 Dec;113(12):4659-62. doi: <https://doi.org/10.1007/s00436-014-4182-4>.

8: Steinke S, **Lühken R**, Kiel E. *Assessment of the abundance of Culicoides chiopterus and Culicoides dewulfi in bovine dung: a comparison of larvae extraction techniques and emergence traps*. Vet Parasitol. 2014 Sep 15;205(1-2):255-62. doi: <https://doi.org/10.1016/j.vetpar.2014.07.030>.

7: **Lühken R**, Steinke S, Wittmann A, Kiel E. *Impact of flooding on the immature stages of dung-breeding culicoides in northern europe*. Vet Parasitol. 2014 Sep 15;205(1-2):289-94. doi: <https://doi.org/10.1016/j.vetpar.2014.06.016>.

6: **Lühken R**, Pfitzner WP, Börstler J, Garms R, Huber K, Schork N, Steinke S, Kiel E, Becker N, Tannich E, Krüger A. *Field evaluation of four widely used mosquito traps in central Europe*. Parasit Vectors. 2014 Jun 12;7:268. doi: <https://doi.org/10.1186/1756-3305-7-268>.

5: Krüger A, Börstler J, Badusche M, **Lühken R**, Garms R, Tannich E. *Mosquitoes (Diptera: Culicidae) of metropolitan Hamburg, Germany*. Parasitol Res. 2014 Aug;113(8):2907-14. doi: <https://doi.org/10.1007/s00436-014-3952-3>.

4: Börstler J, **Lühken R**, Rudolf M, Steinke S, Melaun C, Becker S, Garms R, Krüger A. *The use of morphometric wing characters to discriminate female Culex pipiens and Culex torrentium*. J Vector Ecol. 2014 Jun;39(1):204-12. doi: <https://doi.org/10.1111/j.1948-7134.2014.12088.x>.

3: **Lühken R**, Kiel E, Steinke S. *Impact of mechanical disturbance on the emergence of Culicoides from cowpats*. Parasitol Res. 2014 Apr;113(4):1283-7. doi: <https://doi.org/10.1007/s00436-014-3766-3>.

## 2013

2: Becker N, Geier M, Balczun C, Bradersen U, Huber K, Kiel E, Krüger A, **Lühken R**, Orendt C, Plenge-Bönig A, Rose A, Schaub GA, Tannich E. *Repeated introduction of Aedes albopictus into Germany, July to October 2012*. Parasitol Res. 2013 Apr;112(4):1787-90. doi: <https://doi.org/10.1007/s00436-012-3230-1>.

## 2012

1: **Lühken R**, Kiel E. *Distance from the stable affects trapping of biting midges (Diptera, Ceratopogonidae)*. J Vector Ecol. 2012 Dec;37(2):453-7. doi: <https://doi.org/10.1111/j.1948-7134.2012.00250.x>.