Curriculum Vitae — Dr. rer. nat. Stephanie Thomas

Researcher and Study Coordinator
University of Bayreuth

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Current Research Topic and Expertise
Spatial-temporal distribution patterns of diseases.
Early warning systems support public health.
Future projections of health risks.
Lead author IPBES Nexus assessment of biodiversity, water, food and health (2022-2024)

Scientific and Professional Career

1988-94	Geoecology, Univ. of Bayreuth,
1998-00	Environmental Law, Leuphana Univ., Lüneburg
1995-02	Consultant, Büro für Ökologische Studien, Bayreuth
2006	European Environmental Law, Univ. of Koblenz Landau
2008-09 2013-	Study Program Coordinator of the international MSc within the Elite network of Bavaria "Global Change Ecology", Bayreuth
2010-14	PhD, Biogeography, Univ. of Bayreuth, (Dr. rer. nat.)
2014-	Post doc, Biogeography, Bayreuth Projects with e.g. BNI, RKI, ECDC
2018-21	PI, BayVirMos - Mosquito-borne arboviral diseases in Bavaria (Joint project in "Climate Change and Health")
2020-23	Coordinator, DiMoC – Diversity components in mosquito-borne diseases in face of climate change (BiodivERsA call2018-2019)
2022-26	PI, BayByeMos - Growing risks from mosquito-borne diseases in Bavaria (Joint project in "Climate Change and Health")
2024-26	Consulting Expert, EU BIONEXT project on One Health Modelling, Athens
2026-31	Leader Subproject Eco-epidemiological Models WNVcombat (BMFTR)
2026-	Associate editor Global Ecology and Biogeography (IF 6.5)
2026-	Co-moderator MSc Environment, Climate Change and Health; Univ. Bayreuth

Scientific Steering Committees
International conference in Trieste (Italy, 400 participants). Professorship in Eco-modelling (ITG Belgium). Consulting Expert in the ARBOKOM Public Health Project (BW Germany). Consulting Expert in PhD mentoring Univ. Augsburg, Univ. Hamburg. PhD co-supervisor UNU EHS - West African Science Service Center on Climate Change and Adapted Land Use in Togo (WASCAL)

Outreach
TV (ZDF, Arte), Radio (BR), News Papers, campus magazine, Exponat MSWissenschaft (BMFTR)

Selected Publications
h-index = 18 WoS | 23 GS | 1,242 citWoS | 2,495 citGS |07.2026

1. Jung, M; Coll, M; Metaxas, A; **Thomas, SM**; Tsuchiya, K; Meirelles de Oliveira, B; Popp, A; Rounsevell, M (2025): Expansion of conservation areas should be informed by sectoral interlinkages, Trends in Ecology & Evolution, online: 11.11.2025

2. **Thomas SM** (2023): Invasive alien species: a rising global threat that needs control. The Lancet Planetary Health 7 (11), e875-e876.

3. Samy, A; Yáñez-Arenas, C; Jaeschke, A; Cheng, Y; **Thomas, SM** (2022): Modeling Distributional Potential of Infectious Diseases. In: Faruque, F.S. (eds) Geospatial Technology for Human Well-Being and Health. Springer, 337-353 (2022).

4. Tjaden, N; Cheng, Y; Beierkuhnlein, C; **Thomas, SM** (2021): Chikungunya Beyond the Tropics: Where and When Do We Expect Disease Transmission in Europe?, **Viruses**, 13, 1024.

5. Tjaden N, Suk JE, Fischer D, **Thomas SM**, Beierkuhnlein C, Semenza JC (2017) Modelling the effects of global climate change on Chikungunya transmission in the 21st century, **Scientific Reports**, 7(3813).

6. Thomas SM, Obermayr U, Fischer D, Kreyling J, Beierkuhnlein C (2012): Low-temperature threshold for egg survival of a post-diapause and non-diapause European aedine strain, *Aedes albopictus* (Diptera: Culicidae), **Parasites & Vectors**, 5(100)

Memberships

2022-	Gesellschaft für Ökologie (GfÖ)
2015-	European Mosquito Control Association
2012-	Institute for Biodiversity - network e.V ibn, Regensburg, board member
2012-	German Research Platform for Zoonoses
1993-	Verband für Geoökologie in Deutschland

Stephanie Thomas

I am a researcher at the Department of Biogeography at the University of Bayreuth in Germany since 2014. I have been studying insect vectors and vector-borne diseases since more than 15 years. My previous work was focused on sandflies (*Phlebotomus* spp.), now I am focused on mosquitoes (particularly *Aedes* spp. and *Culex* spp.). As ecologist, my aim is to better understand the relationships between biodiversity, climate change, and human health. My current research interest focuses on the **nexus of biodiversity, climate change and mosquito-borne infectious diseases**. Thereby the **spatial and temporal variability of distribution patterns** of vector species and their associated diseases considering climate change and globalisation as major drivers is paramount. Risk analysis involves **modelling techniques and experimental approaches**. As study coordinator I am responsible for the international postgraduate program **Global Change Ecology MSc** within the elite network of Bavaria.

Research

I lead or participate in several **interdisciplinary projects** with partners from different European countries (ongoing or completed): three European Projects (European Centre for Disease Prevention and Control ECDC, BiodivERsA), five national Projects (One health platform; BMBF; BMFTR), and three regional Projects (Bavarian Ministry of Environment, Bavarian Ministry of Health) have been funded, are partly still running. **Total funding amount 1,5 Mio.**

Results of my research were published in **36 ISI-listed** (1,242 citations without self-citations, 2 documents cited by policy, h index 18, WoS 07.2026) and 14 non-ISI-listed **scientific publications**, and in **5 book chapters**. Publications include journals such as Lancet Planetary Health (IF21.6), Trends in Ecology & Evolution (17.3), , Eurosurveillance (IF 7.8), Trends in Parasitology (IF 6.6), Global and Planetary Change (IF 4.0), Scientific Reports (IF 3.9), PLoS Neglected Tropical Diseases (IF 3.4), Parasites & Vectors (IF 3.5), Int. J. Health Geographics (IF 3.2), Journal of Epidemiology and Global Health (IF 3.1)

During the last 7 years, I was reviewer for The Lancet Infectious Diseases (29.4), The **Lancet Planetary Health** (20.5), Science of the Total Environment (8.0), GigaScience (7.7), Communications Medicine | nature (7.4), Infectious Diseases of Poverty (7.4), Communications Biology | nature (5.8), International Journal of Geographical Information Science (5.9), Scientific Reports (4.9), Parasites & Vectors, PLOS Neglected Tropical Diseases, Acta Tropica, Insects, Pathogens and Global Health, Insect Physiology, Journal of Medical Entomology, Bulletin of Entomological Research, Community Ecology, International Journal of Environmental Research and Public Health, Social Ecology, Biology Letters|Royal Society UK

As part of the **scientific committee**, I was responsible for the selection of talks and posters in the field of vector-borne diseases at **the international conference** on "Impact of Environmental Change on Infectious Diseases" in May 2017 at the International Centre for Theoretical Physics of Unesco & Iaea in **Trieste** (Italy). This conference attracts experts in the field from all over the world (about **400 participants**). In 2020, I served as external expert in the **selection committee** for the **Professorship in Eco-modelling** at the Institute of **Tropical Medicine Antwerp** (Belgium**). Invited Expert** in the ARBOKOM Project on invasive vector species in Germany (2018-2021). **Invited Expert** in the EU BIONEXT Project on One Health Modelling in Greece (2024).

Teaching

Modul Methods (since 2025): "**Global Environmental Negotiations: Observing, Engaging, and Reflecting**" (20 students of the postgraduate program Global Change Ecology MSc within the elite network of Bavaria). Modul (since 2021): "**Biodiversity, Climate Change and Health"** consisting of a lecture on "Health Implications of Global Change" and a seminar on "Current Research in Health Implications of Global Change" (30 students of the postgraduate program Global Change Ecology MSc within the elite network of Bavaria, MSc Environment, Climate Change and Health, MSc Global Food, Nutrition and Health). Lecture (2022): **"Medicine and Climate 1"** (3 out of 12 sessions), Seminar/Exercise (2004-2026) "**Academic Working Methods and Skills**". Seminar (2025-) "**Global Environmental Negotiations: Observing, Engaging, and Reflecting**" (10 students of the postgraduate program Global Change Ecology MSc within the elite network of Bavaria)

21 Master Thesis have been accomplished in this field under my supervision and 1 more are still running.

2 PhD thesis have been accomplished in this field under my mentoring and 3 more are still running.

Bayreuth International Summer School BISS (2017-2019), 2 weeks course on Global Change and Health with partners from UK and Egypt.

Certificate: Zertifikat Hochschullehre Bayern

Outreach

TV (ZDF, Arte), Radio (BR), MSWissenschaft: Exhibit on mosquito-borne diseases and planetary health in the "Medicine of the Future 2026" exhibition; approximately 50,000 visitors expected, News Papers, campus magazine

Important publications (excerpt):

Romiti, F; Droghei, S; Brass, D; Caminade, C; Marini, G; Purse, B; Erguler, K; Albieri, A; Angelini, P; Blaha, M; Briet, O; Calzolari, M; Carrieri, M; D'Alessio, S; Ferraguti, M; Ferrari, N; Fesce, E; Flacio, E; Garrido Zornoza, M; Hammami, P; Huxley, PJ; Ibanez-Justicia, A; Ippoliti, C; Kern, E; Longo, E; Meyer, A; Müller, R; Pardo, M; Reuss, F; Santarelli, G; Sprengers, L; **Thomas, SM**; Van Bortel, W; Virgillito, C; Wang, Y; Wint, W; Rosà, R; Da Re, D (2026): Modelling the risk posed by Aedes mosquitoes in Europe: Identifying research needs from public health stakeholders and field entomologists, *Acta Tropica*, 278, 108108, ISSN 0001-706X, doi: 10.1016/j.actatropica.2026.108108.

Jung, M; Coll, M; Metaxas, A; **Thomas, SM**; Tsuchiya, K; Meirelles de Oliveira, B; Popp, A; Rounsevell, M (2025): Expansion of conservation areas should be informed by sectoral interlinkages, *Trends in Ecology & Evolution*, online: 11.11.2025, doi.org/10.1016/j.tree.2025.09.013.

Mbaoma, OC; **Thomas, SM**; Beierkuhnlein, C (2025): Significance of vertical transmission of arboviruses in mosquito-borne disease epidemiology, *Parasites & Vectors*, 18(137), online: 09.04.2025, doi:10.1186/s13071-025-06761-8

Domdey, A J; **Thomas, SM** (2024): Klimawandel und vektorübertragene Erkrankungen – Bedeutung für die Intensiv- und Notfallmedizin, Medizinische Klinik - Intensivmedizin und Notfallmedizin (2024), online: 18.11.2024, doi:10.1007/s00063-024-01206-z

Mbaoma, OC; **Thomas, SM**; Beierkuhnlein, C (2024): Spatiotemporally Explicit Epidemic Model for West Nile Virus Outbreak in Germany: An Inversely Calibrated Approach, *Journal of Epidemiology and Global Health*, 14, 1052-1070 (2024), online: 04.07.2024, doi:10.1007/s44197-024-00254-0

Shittu, R; **Thomas, SM**; Roiz, D; Ruiz, S; Figuerola, J; Beierkuhnlein, C (2024): Modeling the effects of species associations and abiotic parameters on the abundance of mosquito species in a Mediterranean wetland, *Wetlands Ecology and Management*, 32, 381-395 (2024), online: 11.03.2024, doi:10.1007/s11273-024-09982-3

Thomas, SM (2023): Invasive alien species: a rising global threat that needs control, *The Lancet Planetary Health*, 7(11), e875-e876, doi:10.1016/S2542-5196(23)00233-4

Samy, A; Yáñez-Arenas, C; Jaeschke, A; Cheng, Y; **Thomas, SM** (2022): Modeling Distributional Potential of Infectious Diseases. In: Faruque, F.S. (eds) Geospatial Technology for Human Well-Being and Health. Springer, Cham, ISBN 978-3-030-71376-8, 337-353 (2022). doi:10.1007/978-3-030-71377-5_18

Adeleke, E; Shittu, R; Beierkuhnlein, C; **Thomas, SM** (2022): High Wind Speed Prevents the Establishment of the Disease Vector Mosquito *Aedes albopictus* in Its Climatic Niche in Europe,

Frontiers in Environmental Science, 10, 846243, online: 06.06.2022, doi:https://doi.org/10.3389/fenvs.2022.846243

Tjaden, N; Cheng, Y; Beierkuhnlein, C; **Thomas, SM** (2021): Chikungunya Beyond the Tropics: Where and When Do We Expect Disease Transmission in Europe?, *Viruses*, 13, 1024. doi:https://doi.org/10.3390/v13061024

Cheng, Y; Tjaden, N; Jaeschke, A; **Thomas, SM**; Beierkuhnlein, C. (2021): Using centroids of spatial units in ecological niche modelling: Effects on model performance in the context of environmental data grain size, *Global Ecology and Biogeography*, 2021, 1-11. doi:10.1111/geb.13240

Cheng, Y; Tjaden, N; Jaeschke, A; **Thomas, SM**; Beierkuhnlein, C. (2020): Deriving risk maps from epidemiological models of vector borne diseases: State-of-the-art and suggestions for best practice, *Epidemics*, 33, 100411. doi:10.1016/j.epidem.2020.100411

Thomas SM, Tjaden N, Frank C, Jaeschke A, Zipfel L, Wagner-Wiening C, Faber M, Beierkuhnlein C, Stark K (2018) Areas with High Hazard Potential for Autochthonous Transmission of *Aedes albopictus*-Associated Arboviruses in Germany, *International Journal of Environmental Research and Public Health*, 15(1270), 1-12, doi:10.3390/ijerph15061270

Tjaden N, Caminade C, Beierkuhnlein C, **Thomas SM** (2018) Mosquito-Borne Diseases: Advances in Modelling Climate-Change Impacts., *Trends in Parasitology*, 34(3), 227-245 (2018) doi:10.1016/j.pt.2017.11.006

Tjaden N, Suk JE, Fischer D, **Thomas SM**, Beierkuhnlein C, Semenza JC (2017) Modelling the effects of global climate change on Chikungunya transmission in the 21st century, *Scientific Reports*, 7(3813) doi:10.1038/s41598-017-03566-3

Fischer D, **Thomas SM**, Neteler M, Tjaden N, Beierkuhnlein C (2014) Climatic suitability of *Aedes albopictus* in Europe referring to climate change projections: Comparison of mechanistic and correlative niche modelling approaches, *Eurosurveillance*, 19(6/4)pii: 20696

Thomas SM, Beierkuhnlein C (2013) Predicting ectotherm disease vector spread - Benefits from multidisciplinary approaches and directions forward, *Naturwissenschaften*, 100(5), 395-405 doi:10.1007/s00114-013-1039-0

Thomas SM, Obermayr U, Fischer D, Kreyling J, Beierkuhnlein C (2012): Low-temperature threshold for egg survival of a post-diapause and non-diapause European aedine strain, *Aedes albopictus* (Diptera: Culicidae), *Parasites & Vectors*, 5(100) doi:10.1186/1756-3305-5-100