



Prof. Dr. Katrin Böhning-Gaese ML

Professor at Goethe University Frankfurt

Director, Senckenberg Biodiversity and Climate Research Centre Frankfurt (SBiK-F)

Research interests

Relationships between people and ecosystems

- Macroecology, modelling, community ecology and social-ecological systems
- Influence of global change on biodiversity and ecosystem functions
- Relationship between biodiversity, nature's contributions to people and human well-being

CV

Education

10. 02. 1999 Habilitation in "Zoologie" at Universität Tübingen. Research topic: "Mikro- und makroökologische Ansätze zum Verständnis von Artengemeinschaften"; 03. 12. 1999 transferred to RWTH Aachen.
- 1990 – 1993 PhD thesis: "Ursachen für langfristige Bestandsentwicklungen europäischer und nordamerikanischer Singvögel in kontinentalem Maßstab", Universität Tübingen
23. 08. 1993 Dissertation Dr. rer. nat. magna cum laude.
- 1984 – 1990 Study of Biology at Universität Tübingen, Diplom.
Diploma thesis: "Zur Nahrungsökologie des Weißstorchs (*C. ciconia*) in Oberschwaben", Universität Tübingen

Professional experience

- 2017 - 2021 Vice-president of the Leibniz Association.
- 2013 - 2022 Member of the directorate of Senckenberg Gesellschaft für Naturforschung.
- Since 2010 W3 professor Goethe University and Director of the Senckenberg Biodiversity and Climate Research Centre, Frankfurt.
- 2001 - 2010 C3 professor for "Ecology" at Johannes Gutenberg-Universität Mainz.
- 1999 - 2001 Research Associate at RWTH Aachen, Dept. Zoologie/Tierphysiologie. Heisenberg award by DFG.
- 1996 - 1999 Research Associate at RWTH Aachen, Dept. Zoologie/Tierphysiologie. Habilitanden stipend awarded by DFG.
- 1993 – 1996 Postdoctoral fellow at Vogelwarte Radolfzell, Max-Planck-Institut für Verhaltensphysiologie, Prof. Berthold.

Awards

- 2022 Elected Honorary Fellow of the American Ornithological Society.
- 2021 Deutscher Umweltpreis of the Deutsche Bundesstiftung Umwelt.
- 2015 Elected fellow of Leopoldina, German National Academy of Sciences.
- 2015 Elected fellow of the Academy of Sciences and Literature | Mainz.
- 1999 Heisenberg award of the Deutsche Forschungsgemeinschaft.
- 1992 PhD fellowship of Studienstiftung des Deutschen Volkes.

Fellowships and grants (past 5 years)

- 2020 - 2024 Speaker of the DFG Research Unit "The role of nature for human well-being in the Kilimanjaro Social-Ecological System (Kili-SES)"; "Coordination Project".
- 2020 – 2024 Project on "Biodiversity and supply of material and non-material NCP" within DFG Research Unit "Kili-SES".
- 2017 – 2020 iDiv Flexible Pool project on the role of nature and socio-economic factors for human well-being.
- 2016 - 2018 Speaker of the DFG Research Unit "Kilimanjaro ecosystems under global change" (FOR 1246/3); "Coordination Project".
- 2016 - 2018 Project on mutualistic plant-animal interaction networks within DFG Research Unit "Kilimanjaro".
- 2015 - 2018 Project funded by DFG in the framework of the German Federation for Biological Data (GFBio).
- 2015 - 2016 Project funded by DFG for initiation of the multilateral network "ScenNet" in the framework of the Belmont Forum.
- 2015 - 2017 Project funded by DFG on "A cross-taxa assessment of the impact of climate change on population abundance".
- 2013 - 2016 Project on functional diversity of birds and bats within DFG Forschergruppe "Kilimanjaro ecosystems under global change" (Bo 1221/16-2).
- 2013 - 2016 Project funded by DFG on functional indicators for avian seed dispersal; DFG Bundle Program: "Platform for Biodiversity and Ecosystem Monitoring and Research in South Ecuador".
- 2012 - 2015 Project funded by DFG on the the impact of climate change on ungulates, large mammalian predators and tourists in African National Parks.
- 2011 - 2015 EU COST Action "Harmonizing global biodiversity modeling (HarmBio)".

Professional services for funding agencies, scientific societies and nature conservation (selection)

- Member of international IPBES "Nature Futures" working group (since 2022)
- Member of the Advisory Committee of the Leopoldina "Zentrum für Wissenschaftsforschung" (since 2022).
- Member of the Advisory Committee of the Legacy Landscape Fund (since 2021).
- Member of the board of Zoologische Gesellschaft Frankfurt (since 2019).
- Member of the DFG „Senatskommission für Grundsatzfragen der Biologischen Vielfalt“ (since 2018).
- Member of the German National Committee for Global Change Research (2011 - 2013).
- Elected spokesperson of the DFG Fachkollegium "Zoologie" (2012 - 2016).
- Elected member of the DFG Fachkollegium "Zoologie", (2008 – 2012).
- Member of the "Senatskommission für Biodiversitätsforschung" of the DFG (2008 - 2016).
- Member of the steering committee of the German Federation for Biological Data (GFBio) (2015 – 2018).
- Member of the steering committee of Map of Life (MoL) (since 2012).
- Member of the executive committee of sDiv, German Centre for Integrative Biodiversity Research – iDiv (2013 - 2017).
- Chairperson of the special interest group "Macroecology" of the "Gesellschaft für Ökologie" (2006 - 2016).
- Chairperson of the "Fachgruppe Ökologie" of the "Deutsche Zoologische Gesellschaft" (2003 - 2007).

- Member of the Editorial Boards of *Global Ecology and Biogeography* (2007 - 2016), *Oecologia* (1999 - 2008), *Basic and Applied Ecology* (2007 - 2008), *Ecotropica* (1995 - 2010), *Journal of Ornithology* (2004 - 2009), and *Avian Science* (2001 - 2003).

Invited scientific talks (past 5 years)

- Public evening lecture, *Deutsche Zoologische Gesellschaft*, Bonn (2022)
- Plenary talk, *Distinguished Lecturers Series Innovation Pathways to Sustainability*, Bonn (2022)
- Keynote talk at „1. Forum des Nationalen Monitoringzentrums zur Biodiversität“, Leipzig (2022)
- Plenary talk at *Symposium Zoonotische Infektionskrankheiten* (2022)
- Plenary talk on „A new approach to site selection for the global conservation of biodiversity in perpetuity“. *Half-Earth Day* (2021).
- Johannes-Müller-Vorlesung, Fachbereich Biologie, Chemie und Pharmazie of FU Berlin (2021).
- Opening speech on “Biodiversity and people in the Anthropocene” at the Annual Meeting of the Leopoldina (2021).
- Plenary talk on „Planetary thinking and nature conservation” in the lecture series “Exploring planetary thinking”, Goethe University (2021).
- Keynote talk on “Das Planetare und der Naturschutz” at the colloquium “Perspektiven auf das Planetare”, University Gießen (2021).
- Keynote talk on “Rückgang der Biodiversität, Zunahme von Pandemien? Eine sozial-ökologische Perspektive“ at a public workshop on the Corona and biodiversity crisis” by MfN and Leibniz network “Crises in a Globalised World” (2020).
- Keynote talk on “Das große Artensterben: Was wissen wir und was müssen wir tun?“ at the digital conference „Zukunftsfragen“ of the EKHN Stiftung and Senckenberg (2020).
- Cambridge Conservation Initiative seminar series (2020).
- Kerner von Marilaun keynote talk at a Conference on "Biodiversität als wissenschaftliche und gesellschaftliche Herausforderung", organised by ÖAW, Wien (2020).
- Plenary talk on “Welche Werte hat Natur?”, Akademie der Wissenschaften und Literatur, Mainz (2019).
- Plenary talk on “Sind Vögel nützlich?”, Urania, Berlin (2018).
- Plenary talk on “An integrative approach to nature in the Anthropocene: science, data, people” iDiv, Leipzig (2018).
- Plenary talk on Kilimanjaro ecosystems under global change, Moshi, Tanzania (2018).
- Keynote talk on Biodiversity research in the Leibniz Association, Brussels (2018).
- Keynote talk at MICMoR Research Forum, KIT, Garmisch-Partenkirchen (2017).
- Plenary talk at 25th Anniversary of Deutsche Bundesstiftung Umwelt, Osnabrück (2017).
- Keynote talk at Biodiversitäts-Symposium of the Akademie der Wissenschaften und der Literatur, Mainz (2017).
- Keynote talk at AfroMont Research Conference, Moshi, Tanzania (2017).

Activities at the science-society and science-policy interface

Political and societal recommendations

- Rat für Nachhaltige Entwicklung, Nationale Akademie der Wissenschaften Leopoldina (2021) *Klimaneutralität – Optionen für eine ambitionierte Weichenstellung und Umsetzung*. **K. Böhning-Gaese** member of working group.
- Nationale Akademie der Wissenschaften Leopoldina (2021) *Den offenen Zugang zu Digitalen Sequenzinformationen erhalten - Multilateraler Vorteilsausgleich und offene Wissenschaft*. **K. Böhning-Gaese** member of working group.
- G7-Science Academies Statement (2021): *Reversing biodiversity loss – the case for urgent action*. G7 Summit, Cornwall. **K. Böhning-Gaese** member of working group.
- Nationale Akademie der Wissenschaften Leopoldina, acatech – Deutsche Akademie der Technikwissenschaften, Union der deutschen Akademien der Wissenschaften (2020): *Biodiversität und Management von Agrarlandschaften – Umfassendes Handeln ist jetzt wichtig*. Halle, Saale. **K. Böhning-Gaese** spokesperson of working group.

- G7-Science Academies Statement (2020): *Global Insect Declines and the Potential Erosion of Vital Ecosystem Services*, G7 Summit, Washington. **K. Böhning-Gaese** member of working group.
- German National Academy of Sciences Leopoldina, acatech – National Academy of Science and Engineering, Union of German Academies of Sciences and Humanities (2018): *Species decline in the agricultural landscape: What do we know and what can we do?* Halle, Saale. **K. Böhning-Gaese** spokesperson of working group.

Publications at the science-policy and science-society interface (past 5 years)

- **Böhning-Gaese, K.**, A.-M. Klein, S. Lakner, and R. Seppelt (2021): Gemeinsam Lösungen finden. Der Schutz der Biodiversität und das Management von Agrarlandschaften brauchen wissenschaftliche Evidenz und Dialog, nicht Polarisierung. Eine Entgegnung. *DLG-Mitteilungen* 11: 74-75.
- **Böhning-Gaese, K.** (2021): Ist die biologische Vielfalt verloren? Was wir wissen und was wir tun können. *Forschung & Lehre* 5|21, p. 352-354.
- **Böhning-Gaese, K.** (2021): Ein gesellschaftliches Umdenken ist nötig. *Ökologie & Landbau* 1: S. 42-44.
- **Katrin Böhning-Gaese** member of editorial team for “*Leitbild Leibniz-Wissenstransfer*” (2019). Leibniz Gemeinschaft.

Public lectures and contribution to public debates (past 5 years)

- Plenary talk, *Die Familienunternehmer*, Frankfurt.
- Keynote talk at “Bio ist die Antwort – Kongress zu 40 Jahren Naturland”, *Naturland*, Berlin
- Keynote talk and member of panel discussion on “Biodiversität verstehen und priorisieren!”, *Haus am Dom*, Frankfurt (2022)
- Keynote talk in reflection week “Biodiversity – the other ecological crisis”, *Taizé* (2022).
- Keynote talk at panel discussion on monitoring of environmental dependencies, risks and impact, *1st Sustainability Standards Watchers Conference*, Frankfurt (2022)
- Keynote talk at panel discussion on “Biodiversität – Vom Wert der Vielfalt“, *Katholikentag*, Stuttgart (2022)
- Member of panel discussion on „Planetares Denken“, Salon Sophie Charlotte, Berlin-Brandenburgische Akademie der Wissenschaften (2022)
- Member of panel discussion on „Naturbasierte Lösungen für den Schutz von Klima und Artenvielfalt“, MfN Berlin (2022)
- Keynote talk, *Parlamentarischer Abend*, MfN Berlin, on “Auf dem Weg zur Weltnaturkonferenz - Wo stehen wir aus Sicht der Wissenschaft“ (2022)
- Plenary talk at *Königsteiner Forum* (2022)
- Plenary talk at *U3L, Goethe University and Scientists for Future* (2022)
- Keynote talk at panel discussion on “Biodiversität – Vom Wert der Vielfalt“ at *Katholische Akademie in Bayern* (2022)
- Plenary talk at *Senckenberg Förderverein* (2022)
- Plenary talk at *Konrad-Adenauer Stiftung* (2021).
- Plenary talk at *Volkshochschule Frankfurt am Main* (2021).
- Plenary talk at *Ornithologische Gesellschaft in Bayern* (2021).
- Member of panel discussion on “Wie retten wir die Artenvielfalt?“ *Leopoldina* (2021).
- Plenary talk at *Polytechnische Gesellschaft Frankfurt* (2021).
- Member of panel discussion, organized by *Goethe University* students, on “Klimawandel und Landnutzung” (2021).
- Member of panel discussion on “Biodiversität in der Krise?“ *Leopoldina* (2021).
- Plenary talk at *Staatliches Museum für Naturkunde Karlsruhe*, Karlsruhe (2020).
- Member of a panel discussion, organized by *Goethe University* students, on “Klimawandel – Sind wir noch zu retten?“ (2020).
- Member of panel discussion on “Making Crises Visible - Krise der Demokratie, *Goethe Bürgeruniversität* (2020).

- Keynote talk at final public debate of the „Semesterfrage: Wie schützen wir die Artenvielfalt?“ *University of Vienna* (2020).
- Member of panel discussion on “Wie wir das Artensterben verhindern können” *Wissenwerte, Konferenz für Wissenschaftsjournalismus*, Bremen (2019).
- Member of panel discussion on “Auswirkungen des Klimawandels auf unserer Natur“. *Heinz Sielmann Stiftung*, Frankfurt (2019).
- Member of panel discussion on “Wer beeinflusst die öffentliche Meinung? Deutungshoheit oder Definitionsmacht von Wissenschaft, Ökonomie und Kunst“. *Frankfurter Kunstverein* (2019).
- Plenary talk „Biodiversität und IPBES“ at “*Entwicklungspolitisches Forum*“ der KfW (2019).
- Member of panel discussion on “Diversity: Why does it matter?”. “*meConvention*“, Deutsches Filmmuseum, Frankfurt (2019).
- Plenary talk on “Artensterben: was wissen wir und was können wir tun?“ *Deutsche Bischofskonferenz* (2019).
- Plenary talk on “Artensterben und Klimawandel: Was wissen wir und was können wir tun?“ *Sommerempfang der Grünen*, Frankfurt (2019).
- Member of panel discussion on “Artenvielfalt, Landwirtschaft und Künstliche Intelligenz – wie geht das zusammen?“ (2019). *Leopoldina*, Halle.
- Member of panel discussion on nature conservation: “Warum handeln wir nicht, obwohl wir so viel wissen?“ (2019). *Senckenberg*.
- Member of panel discussion on “Klimaoase Frankfurt” (2018). *City of Frankfurt*.
- Member of panel discussion on “Rolle der Wissenschaft für unsere Zukunft” (2018). *Senckenberg*.
- Speaker on March for Science Frankfurt (2018).
- Member of panel discussion on “Biodiversität: Herausforderung und Chance für Politik und Gesellschaft” (2017). *Mainzer Academy of Sciences and Literature*.
- Member of panel discussion on “Chancen und Risiken der Digitalisierung” (2017). *Senckenberg*.
- Member of panel discussion on “Artenschutz in Frankfurt” (2017). *Frankfurter Rundschau*.
- Member of panel discussion on “Rolle der Forschungsmuseen für unsere Zukunft” (2017). *Leibniz Gemeinschaft*, Berlin.

National Media interviews (selection, past 5 years)

- *ZDF, ZDFzeit*, TV-Sendung “Artensterben in Deutschland – Die Fakten mit Kai Kupferschmidt“ (2022)
- *ZDF, Terra-X - die Wissens-Kolumne*, „Warum Zugvögel Wächter für uns Menschen sind“ (2022)
- *Deutschlandfunk Kultur*, Radio-Sendung, „Verlust der Biodiversität. Schlimmer als die Klimakrise“ (2022)
- *Bild der Frau*, Die tun etwas! „Die Letzten ihrer Art und wie wir sie noch retten können! (2022)
- *ARD Tagesschau*, 10.10.2021, 20:15 Nachrichten, „Deutscher Umweltpreis: Auszeichnung für Arten- und Moorschutz (2021)
- *3sat NANO spezial vom 8. Oktober: 2021 zum Deutschen Umweltpreis* (2021)
- *1,5 Grad – der Klima-Podcast mit Luisa Neubauer*, „Was hat die Klimakrise mit der Pandemie zu tun?“ (2021)
- *tagesschau24.de*, TV-Sendung Nachrichten, „Vogelsterben auf dem Acker“ (2021)
- *zeit.de*, „Artenvielfalt: Wir brauchen die Natur zu unserem Glück“ (2021)
- *Deutschlandfunk Nova*, Radio-Sendung Hörsaal, „Vögel machen uns glücklich“ (2021)
- *DIE ZEIT Newsletter*, „3 ½ Fragen an Katrin Böhning-Gaese“ (2020)
- *ZDF*, TV-Sendung heute am Mittag, „Stellungnahme zur EU-Agrarpolitik“ (2020)
- *Süddeutsche Zeitung*, „Stellungnahme zu Agrarlandschaften: Überraschende Vehemenz“ (2020)
- *radioEins*, Radio-Sendung Die Profis, „Der Wert der Natur am Kilimandscharo“ (2020)
- *a tempo*, „Im Gespräch mit Katrin Böhning-Gaese: Vielfalt ist Leben“ (2019)
- *ZDF*, TV-Sendung planet e. “Artenschutz Extrem – Erhalt um jeden Preis?“ (2019)
- *Deutschlandfunk*, Radio-Sendung Forschung aktuell, “Leben im Jahr 2040: Vorm Kaffee noch kurz den Algenreaktor anwerfen” (2019)

- *Frankfurter Allgemeine Zeitung*, „Earth Overshoot Day: Die Ressourcen sind aufgebraucht“ (2019)
- *Deutschlandfunk*, Radio-Sendung Zeitfragen, „Das Gefüge zerfällt“ (2018)
- *Deutschlandradio*, Radio-Sendung Forschung Aktuell, „Artensterben und Ökosysteme: Verlust der Artenvielfalt wie seit Jahrzehnten nicht mehr“ (2018)
- *hrinfo*, Radio-Sendung hr Funkkolleg, „Wem gehört die Natur?“ (2018)

Publications

h Factor 58 (Web of Science™ Core Collection), 11,100 citations,

h Factor 77 (Google Scholar), 17,331 citations, both 09.12.2022

ORCID identifier: 0000-0003-0477-5586; ResearcherID W-2601-2019

Most important publications:

20. Mupepele, A. C., ..., W. Wägele*, **K. Böhning-Gaese***, and A. M. Klein* (2021): Biodiversity in European agricultural landscapes: transformative societal changes needed. *Trends in Ecology & Evolution* 36: 1067-1070. *Shared last authorship of the three spokespersons of the working group.
19. Methorst, J., K. Rehdanz, T. Müller, B. Hansjürgens, A. Bonn, and **K. Böhning-Gaese** (2021): The importance of species diversity for human well-being in Europe. *Ecological Economics* 181: 106917.
18. Schleuning, M., E.-L. Neuschulz, J. Albrecht, I. M. A. Bender, D. E. Bowler, D. M. Dehling, S. A. Fritz, C. Hof, T. Müller, L. Nowak, M. C. Sorensen, **K. Böhning-Gaese**, and W. D. Kissling (2020): Trait-based assessments of climate-change impacts on interacting species. *Trends in Ecology & Evolution* 35: 319-328.
17. Bowler, D. E., H. Heldbjerg, A. D. de Jong, and **K. Böhning-Gaese** (2019): Long-term declines of European insectivorous bird populations and potential causes. *Conservation Biology* 33: 1120-1130.
16. Peters, M. K., ..., **K. Böhning-Gaese**, ..., I. Steffan-Dewenter (2019): Climate-land use interactions shape tropical mountain biodiversity and ecosystem functions. *Nature* 568: 88-92.
15. Hof, C., A. Voskamp, M. F. Biber, **K. Böhning-Gaese**, E. K. Engelhardt, A. Niamir, S. G. Willis, and T. Hickler (2018): Bioenergy cropland expansion may offset positive effects of climate change mitigation for global vertebrate diversity. *PNAS* 115: 13294-13299.
14. Albrecht, J., ..., **K. Böhning-Gaese**, and M. Schleuning (2018): Plant and animal functional diversity drive mutualistic network assembly across an elevational gradient. *Nature Communications* 9: 3177.
13. Tucker, M. A., **K. Böhning-Gaese**, ..., T. Mueller (2018): Moving in the Anthropocene: Global reductions in terrestrial mammalian movements. *Science* 359: 466-469.
12. Bowler, D. E., ..., and **K. Böhning-Gaese** (2017): Cross-realm assessment of climate change impacts on species' abundance trends. *Nature Ecology & Evolution* 1: 0067.
11. Peters, M. K., ..., **K. Böhning-Gaese**, ..., I. Steffan-Dewenter (2016): Predictors of elevational biodiversity gradients change from single taxa to the multi-taxa community level. *Nature Communications* 7: 13736.
10. Fritz, S. A., J. T. Eronen, J. Schnitzler, C. Hof, C. M. Janis, A. Mulch, **K. Böhning-Gaese**, and C. H. Graham (2016): Twenty-million-year relationship between mammalian diversity and primary productivity. *PNAS* 113: 10908-10913.
9. Neuschulz, E. L., T. Mueller, M. Schleuning, and **K. Böhning-Gaese** (2016): Pollination and seed dispersal are the most threatened processes of plant regeneration. *Nature Scientific Reports*: 29839.
8. Khaliq, I.*, C. Hof*, R. Prinzing, **K. Böhning-Gaese**, and M. Pfenninger (2014): Global variation in thermal tolerances and vulnerability of endotherms to climate change. *Proceedings of the Royal Society B* 281: 20141097. *joint first authorship.
7. Ferger, S., M. Schleuning, A. Hemp, K. M. Howell, and **K. Böhning-Gaese** (2014): Food resources and vegetation structure mediate climatic effects on species richness of birds. *Global Ecology and Biogeography* 23: 541-549.

6. Fritz, S. A., J. Schnitzler, J. T. Eronen, C. Hof, **K. Böhning-Gaese**, and C. H. Graham (2013): Diversity in time and space: wanted dead and alive. *Trends in Ecology & Evolution* 28: 509-516.
5. Markl, J. S.*, M. Schleuning*, P. M. Forget, P. Jordano, J. E. Lambert, A. Traveset, S. J. Wright, and **K. Böhning-Gaese** (2012): Meta-analysis of the effects of human disturbance on seed dispersal by animals. *Conservation Biology* 26: 1072-1081. * joint first authorship.
4. Lenz, J., W. Fiedler, T. Caprano, W. Friedrichs, B. H. Gaese, M. Wikelski, and **K. Böhning-Gaese** (2011): Seed dispersal distributions by trumpeter hornbills in fragmented landscapes. *Proceedings of the Royal Society B* 278: 2257-2264.
3. Jetz, W., C. H. Sekercioglu, and **K. Böhning-Gaese** (2008): The worldwide variation in avian clutch size across species and space. *PLOS Biology* e303, doi:10.1371/journal.pbio.0060303.
2. Kissling, W. D., C. Rahbek, and **K. Böhning-Gaese** (2007): Food plant diversity as broad-scale determinant of avian frugivore richness. *Proceedings of the Royal Society B* 274: 799-808.
1. **Böhning-Gaese, K.**, T. Caprano, K. van Ewijk, and M. Veith (2006): Range size: disentangling current traits and phylogenetic and biogeographic factors. *American Naturalist* 167: 555-567.