

# Christopher David Barratt

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## Profile

Evolutionary biologist focusing on molecular (bioinformatic) and spatial (eco-informatic) analyses to understand environmental and anthropogenic impacts on species and populations, providing tools and insights to aid genetic management

## Education

- Sep 2013–Apr 2017 **PhD** (Summa cum laude): Biodiversity patterns and conservation of the coastal forests of Eastern Africa. University of Basel, Switzerland, Advisor: Dr. S. Loader, External examiner: Prof. N. Burgess (WWF, UNEP-WCMC)
- Jul 2010–Jul 2012 **MSc by research** (Pass): Developing microsatellite markers for East African caecilian amphibians. University of Salford, UK, Advisor: Dr. R. Jehle, External Examiner: Dr. A. Pernatta (University of Brighton)
- Sep 2003–Jun 2007 **BSc** (1st class honours): Wildlife and Practical Conservation. University of Salford, UK, Advisor: Dr. P.A. Rees

## Professional Experience

- Sep 2024– **Researcher**, Centre for Genetic Resources, Animal Breeding and Genomics Group, Wageningen University and Research, the Netherlands. Main specialisations are project acquisition, genomics, eDNA and natural resource management
- Apr 2024–Aug 2024 **Postdoctoral Researcher**, Naturalis Biodiversity Center, Leiden, the Netherlands. “Making multi-species population vulnerability predictions by combining genomics and spatial modelling”. (Main PI)
- Apr 2021–Mar 2024 **Postdoctoral Researcher**, sDiv (Synthesis Centre for Biodiversity Science), part of the German Centre for Integrative Biodiversity Research (iDiv), Halle-Jena-Leipzig, Germany. Individual Postdoc grant ‘[Life on the edge: a new informatic toolbox to conserve wildlife populations under threat from future global change](#)’ (Main PI)
- Aug 2018–March 2021 **Postdoctoral Researcher**, German Centre for Integrative Biodiversity Research (iDiv), Halle-Jena-Leipzig, Germany. ‘Dynamic aspects of chimpanzee diversification across Africa using paleoclimate and genomic data’ (Main PI)
- Nov 2017–May 2018 **Desk editor** (Scientific journals) Brill publishers, Leiden, Netherlands.
- Sep 2016– Jun 2017 **Visiting scientist**, Biogeography and Macroecology group (Dr. W.D. Kissling), Institute for Biodiversity and Ecosystem Dynamics, University of Amsterdam, the Netherlands. ‘Population genomics and historical distributions of East African amphibians’ (Main PI, part of PhD)
- Dec 2011–Dec 2016 **Managing editor**, Herpetological Journal (freelance). **Production editor**, Wolters Kluwer publishing, London, UK (full time, Nov 2012–Sep 2013)
- Sep 2010–Nov 2012 **Teaching Assistant**, School of Environment and Life Sciences, University of Salford, UK
- Aug 2008–May 2009 **Research Officer**, Frontier Savannah Research Project, Kilombero valley, Tanzania
- Aug–Dec 2005 **Research officer**, Corlett Maritima bird project, Principe Island, West Africa

## Periods of leave

**Total parental leave taken (2 children):** 18.55 months (total equivalent = 10.375 months full time)

**Full time** parental leave (working 0%): Jun-Jul 2018, Nov-Dec, May 2020

**Part time** parental leave (working 62.5%-75%): 13.55 months part time leave – (Dec 2017-May 2018 80% PT, Aug 2018 – Apr 2019 75% PT, Oct 2020 – Apr 2021 62.5% PT, Jun – Oct 2021 75% PT)

**Teaching** (Design and teaching of 4 workshops (~ 50h), Practical leader, lecturer, exam assessor for MSc course (~60h), Teaching assistant for BSc (~200 hours), Field instructor and mentor for BTEC (9 months FT)

Jun 2022	<b>Organiser and teacher</b> of 2 day yDiv workshop: " <a href="#">Estimating genetic diversity and population information from short read (ddRAD-seq) type data</a> " iDiv, Leipzig (25 MSc, PhD, students technical staff)
Jun 2020-2022	<b>Practical leader</b> (2 day) for Macroecology and Macroevolution under Global change MSc course: "SDMs and phylogenetic indices for biogeography and conservation" iDiv/University of Leipzig (10-15 MSc students)
Jun 2020-2023	<b>Guest lecturer and exam assessor</b> for Macroecology and Macroevolution under Global change MSc course. Lecture topics: "Micro and Macro- evolution, Species Distribution Modelling, and Evolutionary data in biodiversity research" iDiv/University of Leipzig (10-15 MSc students)
Oct 2019	<b>Organiser and teacher</b> of 2 day workshop: "Making sense of high-throughput sequencing (short read) data: population structure, coalescent theory, demographic modelling" iDiv, Leipzig (15 MSc, PhD, students technical staff)
Mar 2019	<b>Organiser and teacher</b> of 1 day workshop: "Generating and processing high-throughput short read data (eg. RAD-seq, ddRAD) introduction: Important considerations for sampling design and some initial bioinformatics" iDiv, Leipzig (15 MSc, PhD, students technical staff)
Oct 2015	<b>Organiser and teacher</b> of two half-day workshops: "Spatial analysis in R" and "An introduction to next generation sequencing in unix", at the Institute of Biogeography, University of Basel (8 students)
Sep 2010–2012	<b>Teaching Assistant</b> over 5 semesters: Population genetics, Systematics, Statistical methods, Terrestrial and freshwater habitats, Hydrobiology, Laboratory techniques, University of Salford (~150 BSc students)
Aug 08–May 09	<b>BTEC in tropical habitat conservation mentor:</b> Four lectures on biodiversity monitoring techniques for 20 students and field instructor for ecological data collection (amphibians, birds, butterflies, small mammals, carnivores and large mammal tracking). Mentoring and project supervision of 5 BTEC student projects Frontier Savannah Research Project, see past student supervision below

## Student supervision

**Ongoing** (3 PhD students whom I guide in developing hypotheses, and supervise conceptual and analytical work)

Dec 2024 –	<a href="#">Rensco Hogers</a> (Co-supervisor, PhD 2022-2026) "Identification of unique or deleterious genetic variation across Dutch cattle breeds using whole genome sequencing data, Main Supervisors: Aniek Bouwman, Martien Groenen, Mirte Bosse, Annemieke Rattink (Wageningen University and Research, Netherlands)
Oct 2022 –	<a href="#">François Darius Accrombessi</a> (External Advisor, PhD 2022-2025) "Effects of Climate Change together with Forest Fragmentation on the genetic diversity, feeding behaviour and dispersal patterns of <i>Colobus vellerosus</i> in central and southern Benin, West Africa, Main Supervisors: Prof. Inza Kone, (WASCAL, Université Félix Houphouët-Boigny, Centre Suisse de Recherches Scientifiques en Côte d'Ivoire) & Dr. (MC) S. Scholastique Mireille Toyi Alagbe (University of Abomey-Calavi, Benin)
Nov 2021 –	<a href="#">Marilia Souza Lucas</a> (Co-supervisor, PhD, 2021–2025) "Harnessing the power of RADseq data to achieve a more mechanistic understanding of rapid evolution", Main supervisor: Prof. Isabell Hensen (MLU Wittenberg-Halle)

**Past** (2 PhD students, 4 MSc student theses, 3 MSc student projects, 1 BSc lab project, 5 BTEC projects)

- Sep 2026 [Aniek Wansink](#) (Supervisor, MSc literature review, 3 months) “Genomic offset modelling: the current state of the field and future directions - how reliably can genotype-environment associations predict maladaptation to climate change?”. Vrije Universiteit Amsterdam.
- Oct 2019–2025 [Francisco V. Puentes](#) (Co-supervisor, PhD, 2019–2025) “Micro- and macro-evolutionary dynamics of seasonally dry neotropical forests”, Main supervisor: Dr. Renske Onstein (iDiv, Leipzig)
- Oct 2022–2024 [Anna Azeroth](#) (Main supervisor, MSc thesis 2022-2023) “What are the anthropogenic and environmental correlates of amphibian diversity and how well is it protected across East Africa?”. University of Leipzig
- Sep 2018–2023 [Laura Mendez Cuellar](#) (Co-supervisor, PhD) “Genomic signatures of megafaunal palms on Madagascar”, Main supervisor: Dr. Renske Onstein (iDiv, Leipzig)
- Feb 2019–2023 [Jeprianto Manurung](#) (Co-supervisor, PhD), “Evolutionary ecology of *Lumnitzera racemosa* and *Lumnitzera littorea* (Combretaceae)”, Main supervisor: Dr. Alexandra Muellner-Riehl (University of Leipzig)
- Jan 2021-2022 Rebecca Strueber (Main supervisor, MSc thesis) “Examining spatial shifts of species occurrences through time: Past and future climate change impacts on the geographic distribution of *Enterolobium* (Fabaceae) in the Neotropics”. MLU Wittenberg-Halle/iDiv, Leipzig
- Apr–Jun 2021 Amelie Hauer, Anne Peter, Christian Weiss (Main supervisor, MSc student project 2021) “The impact of new genetic information on species vulnerability to global change: The African elephant as a case study”. University of Leipzig/iDiv
- Nov 2014–2015 Marco Crotti (Co-supervisor, MSc thesis, 2014–2015) “Empirical data from a species of African frog support the negative consequences of excluding missing data from RADseq analyses”, Main supervisor: Dr. Jeffrey Streicher (Natural History Museum London)
- Aug–Dec 2011 Jack Muskett (Co-supervisor, BSc lab project, 2011–2012) “Gene flow and metapopulation dynamics in *Triturus cristatus*”, Main supervisor: Dr. Robert Jehle (University of Salford)
- Apr–May 2009 Richard Saunders-Irving (Main supervisor, BTEC in Tropical Habitat Conservation) “The effects of the Kilombero Valley Teak Company Mavimba sawmill site on large mammal movement” (Frontier Tanzania Savannah Research Project)
- Jan–Mar 2009 Fred Griffith (Main supervisor, BTEC in Tropical Habitat Conservation) “Effects of seasonal burning on birds in African dry forest” (Frontier Tanzania Savannah Research Project)
- Jan–Mar 2009 Sebastian Ngasoma (Main supervisor, BTEC in Tropical Habitat Conservation) “Bird diversity in the Kilombero Valley” (Frontier Tanzania Savannah Research Project)
- Sep–Dec 2008 Camilla Hassing (Main supervisor, BTEC in Tropical Habitat Conservation) “Hunting techniques of Carnivores” (Frontier Tanzania Savannah Research Project)
- Sep–Dec 2008 Natalie Kay (Main supervisor, BTEC in Tropical Habitat Conservation) “How is butterfly diversity affected by burning in miombo woodland?” (Frontier Tanzania Savannah Research Project)

**Publications** (6 first authored, [Google scholar](#) h-index = 14, citations = 727)

1. **Barratt CD**, Horsburgh GJ, Dawson, DA, Gower DJ, Wilkinson M, Loader SP, Jehle R (2012). Isolation and characterisation of nine polymorphic microsatellites for the caecilian amphibian *Boulengerula uluguruensis*, and cross-species amplification with four congeneric species. *Conservation Genetics Resources* 4, 225–229
2. O'Brien CD, Hall JE, Orchard D, **Barratt CD**, Arntzen JW, Jehle R. (2015). Extending the natural range of a declining species: Genetic evidence for native great crested newt (*Triturus cristatus*) populations in the Scottish Highlands. *European Journal of Wildlife Research* 61, 27–33
3. Sala-Bozano M, Mariani S, **Barratt CD**, Sacchi H, Boufana B, Coscia I. (2015). Spatio-temporal variability in the population structure in North-East Atlantic stocks of horse mackerel (*Trachurus trachurus*). *Proceedings of the Royal Irish Academy: Biology and Environment* 115, 211–220
4. Bwong BA, Nyamache JO, Malonza PK, Wasonga DV, JM Ngwava, **Barratt CD**, Nagel P, Loader SP (2017). Amphibian diversity in Shimba Hills National Reserve, Kenya: a comprehensive list of specimens and species. *Journal of East African Natural History* 106, 19–46
5. Zimkus B, Lawson L, Barej M, **Barratt CD**, Channing A, Dehling JM, Gehring S, Greenbaum E, Gvodzik

- V, Harvey J, Kielgast J, Kusamba C, Nagy Z, Pabijan M, Penner J, Du Preez L, Rödel MO, Vences M, Weber K, Lötters S. (2017). Leapfrogging into new territory: how Mascarene ridged frogs have diversified across Africa. *Molecular Phylogenetics and Evolution* 106, 254–269
6. Bittencourt-Silva GB, Tolley K, Lawson LP, Portik DM, **Barratt CD**, Nagel P, Loader SP (2017) Impact of species delimitation and sampling on niche models and phylogeographic inference: a case study of the East African reed frog *Hyperolius substriatus* Ahl 1931. *Molecular Phylogenetics and Evolution* 114, 261–270
  7. **Barratt CD**, Lawson LP, Bittencourt-Silva GB, Doggart N, Morgan-Brown T, Nagel P, Loader SP (2017). A new, narrowly distributed, and critically endangered species of spiny-throated reed frog (Anura: Hyperoliidae) from a highly threatened coastal forest reserve in Tanzania. *Herpetological Journal* 27, 13–24
  8. **Barratt CD**, Bwong BA, Onstein RE, Rosauer DF, Menegon M, Doggart N, Nagel P, Kissling WD, Loader SP (2017). Environmental correlates of phylogenetic endemism in amphibians and the conservation of refugia in the coastal forests of Eastern Africa. *Diversity and Distributions* 23, 875–887
  9. Jongsma G, Barej M, **Barratt CD**, Burger M, Conradie W, Greenbaum E, Hirschfeld M, Leache A, Penner J, Portik DM, Rödel MO, Blackburn D (2018). Diversity and biogeography of frogs in the genus *Amnirana* (Anura: Ranidae) across sub-Saharan Africa. *Molecular Phylogenetics and Evolution* 120, 274–285
  10. **Barratt CD**, Bwong BA, Jehle R, Liedtke HC, Onstein RE, Nagel P, Portik DM, Streicher JW, Loader SP (2018). Vanishing refuge? Testing the forest refuge hypothesis in coastal East Africa using genome-wide sequence data for seven amphibians. *Molecular Ecology* 27, 4289–4308
  11. Crotti, M, **Barratt CD**, Loader SP, Gower DJ, Streicher JW (2019). Causes and analytical impact of missing data in RADseq phylogenetics: insights from an African frog (*Afraxalus*). *Zoologica Scripta* 48, 157–167
  12. Portik DM, Bell RC, Blackburn DC, Bauer AM, **Barratt CD**, Branch WR, Burger M, Channing A, Colston TJ, Conradie W, Dehling JM, Drewes RC, Ernst R, Greenbaum E, Gvoždík V, Harvey J, Hillers A, Hirschfeld A, Jongsma GFM, Kielgast J, Kouete MT, Lawson LP, Leaché AD, Loader SP, Lötters S, van der Meijden A, Menegon M, Müller S, Nagy ZT, Ofori-Boateng C, Ohler A, Papenfuss TJ, Rößler D, Sinsch U, Rödel M-O, Veith M, Vindum J, Zassi-Boulou AG, McGuire JA (2019). Sexual Dichromatism Drives Diversification Within a Major Radiation of African Amphibians. *Systematic Biology* 68, 859–875
  13. Onstein RE, Vink D, Veen J, **Barratt CD**, Flantua S, Wich S, Kissling D (2020). Fruit colours determine the broad-scale distribution and diversification of primate vision. *Proceedings of the Royal Society B* 287, 20192731
  14. Kalan A, Kulik L, Arandjelovic M, Boesch C, Haas F, Dieguez P, **Barratt CD**, Abwed EE, Agbor A, Angedakin S, Aubert D, Ayimisin EA, Bailey E, Bessone M, Brazzola G, Buh VE, Rebecca Chancellor R, Cohen H, Coupland C, Curran B, Danquah E, Deschner T, Dowd D, Eno-Nku M, Fay JM, Goedmakers A, Granjon A-C, Head J, Hedwig D, Hermans V, Jeffery KJ, Jones S, Junker J, Kadam P, Kambi M, Kienast I, Kujirakwinja D, Langergraber KE, Lapuentea J, Larson B, Lee KC, Leinert V, Llana M, Marrocoli S, Meier AC, Morgand B, Morgan D, Neila E, Nicholl S, Normand E, Ormsby LJ, Pacheco L, Piel A, Preece J, Robbins M, Rundus A, Sanz C, Sommer V, Stewart F, Taggn N, Tennie C, Vergnes V, Welsh A, Wessling EG, Willie J, Wittig RM, Yuh YG, Zuberbühler K, Kühl HS (2020). Environmental variability supports chimpanzee behavioural diversity. *Nature communications* 11, 4451
  15. Bwong BA, **Barratt CD**, Loader SP, Nyamache JO, Menegon M, Malonza PK, Nagel P, Lawson LP (2020) Systematics of *Hyperolius mitchelli* Loveridge, 1953 and *H. rubrovermiculatus* Schiøtz, 1975 (Anura: Hyperoliidae) and assignment of populations from northern Tanzania. *African Journal of Herpetology* 69, 165–181
  16. Ngwava JM, **Barratt CD**, Bwong BA, Boakes E, Wasonga V, Muchai V, Nguku J, Nyamache J, Malonza PK, Channing A, Owen N, Couchman O, Loader SP (2021). Species-specific or assemblage-wide decline? The case of *Arthroleptides dutoiti* Loveridge, 1935 and the amphibian assemblage of Mount Elgon, Kenya. *African Journal of Herpetology* 70, 53–60
  17. Lester JD, Vigilant L, Gratton P, **Barratt CD**, McCarthy MS, Boesch CD, Kuhl H, Dieguez P, Aebischer T, Agbor A, Álvarez-Varona P, Angedakin S, Assumang AK, Aubert F, Ayimisin EA, Bailey E, Bamba A, Barubiyo D, Bessone M, Bonnet M, Brazzola G, Chancellor R, Cipoletta C, Cohen H, Corogenes K, Coupland C, Curran B, Danquah E, Dengui JC, Deschner T, Dilambaka E, Dowd D, Dunn A, Dupai N J, Egbe VE, Eno-Nku M, Goedmakers A, Granjon AC, Head J, Heilman A, Hedwig D, Hermans V, Imong I, Jeffery KJ, Jones S, Junker J, Kadam P, Kaiser M, Kalan AK, Kambere M, Kambi M, Kehoe L, Kienast I, Kujirakwinja D, Langergraber KE, Lapeyre V, Lapuente J, Larson B, Laudisoit A, Lee K, Leinert V, Llana M, Manasseh EN, Maretti G, Marrocoli S, Martín R, Masozera M, Meier A, Morgan D, Muhanguzi G,

- Mulindahabi F, Murai M, Neil E, Nicholl S, Nixon S, Niyigaba P, Normand E, Ntare N, Nzeheke A, Orbell C, Ormsby LJ, Orume R, Pacheco L, Piel A, Preece J, Regnaut S, Robbins M, Rundus A, Sanz C, Sciaky L, Siaka AM, Sommer V, Städele V, Stewart F, Tagg N, Telfer P, Terrade E, Tickle A, Ton E, van Schijndel J, Vanleeuwe H, Vergnes V, Vyalengerera MK, Wessling EG, Willie J, Wittig RM, Ginath Y, Yurkiw K, Zuberbuehler K, Arandjelovic M (2021) Recent genetic connectivity and clinal variation in chimpanzees. *Nature Communications Biology* 283
18. Perino A, Pereira HM, Felipe-Lucia M, Kim H, Kühl HS, Marselle MR, Meya JN, Meyer C, Navarro LM, van Klink R, Albert G, **Barratt CD**, Bruelheide H, Cao Y, Chamoin A, Darbi M, Dornelas M, Eisenhauer N, Essl F, Farwig N, Förster J, Freyhof J, Geschke J, Gottschall F, Guerra C Haase P, Hickler T, Jacob U, Kastner T, Kim H, Korell L, Kühn I, Lehmann GUC, Lenzner B, Maes J, Marques A, Motivans E, Quintero LC, Pacheco A, Popp A, Rouet-Leduc J, Schnabel F, Siebert J, Staude IR, Trogisch S, Švara V, Svenning JC, Pe'er G, Raab K, Rakosy D, Vandewalle M, Werner AS, Wirth C, Xu H, Yu D, Zinngrebe Y & Bonn A (2021). Biodiversity Post-2020: Closing the gap between global targets and national-level implementation. *Conservation Letters* e12848
  19. **Barratt CD**, Lester JD, Gratton P, Onstein RE, Kalan AK, McCarthy MS, Bocksberger G, White LC, Vigilant L, Diegues P, Abdulai B, Aebischer T, Agbor A, Assumang AK, Bailey E, Bessone M, Buys B, Carvalho JS, Chancellor R, Cohen H, Danquah E, Deschner T, Dongmo ZN, Doumbe O, Dupain J, Duvall CS, Eno-Nku M, Etoga G, Galat-Luong A, Garriga R, Gatti S, Ghiurghi A, Goedmakers A, Granjon A, Hakizimana D, Head J, Hedwig D, Herbinger I, Hermans V, Jones S, Junker J, Kadam P, Kambi M, Kienast I, Kouakou CI, Kouame PN, Langergraber KE, Lapuente J, Laudisoit A, Lee KC, Maisels F, Mirghani N, Moore D, Morgan B, Morgan D, Neil E, Nicholl S, Nkambi L, Ntongho A, Orbell C, Ormsby LJ, Pacheco L, Piel AK, Pintea L, Plumtre AJ, Rundus A, Sanz C, Sommer V, Sop T, Stewart FA, Sunderland-Groves J, Tagg N, Todd A, Ton E, van Schijndel J, Vanleeuwe H, Vendras E, Welsh A, Wenceslau JFC, Wessling EG, Willie J, Wittig R, Yoshihiro N, Yuh YG, Yurkiw K, Boesch C, Arandjelovic M, Kühl HS (2021). Quantitative estimates of glacial refugia for chimpanzees (*Pan troglodytes*) since the Last Interglacial (120,000 BP). *American Journal of Primatology*, e23320
  20. **Barratt CD**, Zizka A, Duarte Ritter C, Joerger-Hickfang T, Zizka V (2022). Existing approaches and future directions to link macroecology, macroevolution and conservation prioritization. *Ecography* (<https://doi.org/10.1111/ecog.05557>, under consideration for the E4 award)
  21. Manurung J, Andrés BMR, **Barratt CD**, Schnitzler J, Jönsson BF, Susanti R, Durka W, Muellner-Riehl AN (2023). Deep phylogeographic splits and limited mixing by sea surface currents govern genetic population structure in the mangrove genus *Lumnitzera* across the Indonesian Archipelago. *Journal of Systematics and Evolution* 61, 299-314
  22. Ramsay MS, Sgarlata G, **Barratt CD**, Salmons J, Andriatsitohaina B, Kiene F, Manzi S, Ramilison ML, Chikhi, Lehman SM, Radespiel (in review). Effects of forest fragmentation on connectivity and genetic diversity in an endemic and an invasive rodent in northwestern Madagascar. *PLOS One*
  23. Velásquez-Puentes FJ, Torke BM, **Barratt CD**, Dexter K, Pennington T, Pezzini F, Ringelberg J, Zizka A, Onstein RE (2023). Both pre-adaptation and adaptation have shaped trait-environment matching in a Neotropical legume radiation. *Global Ecology and Biogeography* 32, 1760-1772
  24. Souza Lucas M, Hensen I, **Barratt CD**, Callaway R, Durka W, Lekberg Y, Nagy D, Onstein RE, Shah M, van Dam N, Rosche (2024). Re-focusing sampling, design and experimental methods to assess rapid evolution by non-native plant species. *Biological Invasions* 26, 1327-1343
  25. Mendez-Cuellar L, **Barratt CD**, Durka W, Kissling WD, Eiserhardt WL, Baker WJ, Randrianasolo V, Onstein RE (2024). Genomic signatures of long-distance seed dispersal events in Malagasy palms mediated by past megafrugivores. *Journal of Ecology* 112, 1583-1598
  26. **Barratt CD**, Preissler K, Jennert PR, Eckhardt F, Nadjafzadeh M, Steinfartz S. (2024) A decision-making framework to maximise the evolutionary potential of populations – Genetic and genomic insights from the common midwife toad (*Alytes obstetricans*) at its range limits. *Heredity* 133, 249-261
  27. **Barratt CD**, Onstein RE, Pinsky ML, Steinfartz S, Kühl HS, Forester BR, Razgour O. (2024). Life on the edge: a new toolbox for population-level climate change vulnerability assessments. *Methods in Ecology and Evolution*
  28. Ostridge HJ, Fontseré C, Lizano E, Soto DC, Schmidt JM, Saxena V, Alvarez-Estape M, **Barratt CD**, et al. (2025). Local adaptation to habitat in wild chimpanzees. *Science*
  29. **Barratt CD**, Bwong BA, Lawson LP, Lyakurwa JV, Steinfartz S, Müller H, Jehle R, Loader SP. (2025). Different Strokes for Different Croaks: Using an African Reed Frog Species Complex as a Model to Understand Idiosyncratic Population Requirements for Conservation Management. *Evolutionary Applications* 18 (10), e70164



## In review

1. Velasques-Puentes F, Durka W, Hughes C, Pennington RT, Ringelberg J, Onstein RE, **Barratt CD**. (in review). Local adaptation to current but not future climate in seasonally dry forests: population genomic evidence in a Neotropical legume tree. *Evolutionary Applications*
2. Nagy DU, Ragan M, Callaway RM, Flory SL, **Barratt CD** ... Rosche C et al. (in review). Rapid and repeated evolution of increased competitive ability in a global invader. *Nature Communications*
3. Lucas, MS, Rosche C, Hensen I, Michalski SG, Nagy DU, ..., Durka W, **Barratt CD** (in revision). Population genomics of a cosmopolitan weed provides insights into its local adaptation and recent demographic history. *Molecular Ecology*

## Grants

### Awarded as main PI (>€950,000)

Jan 2025	<a href="#">eDNA metabarcoding as a novel genetic tool to monitor biodiversity in livestock production systems</a> (Wageningen University and Research – Kennisbasis onderzoek) [4 years] (€368,000)
Apr 2022	iDiv (German Centre for Integrative Biodiversity Research) Halle-Jena-Leipzig – Flexpool Support Fund “ <a href="#">Cryptic diversity under global change: the case of the <i>Hyperolius mitchelli</i> African reed frog species complex</a> ” (€10,000)
Jun 2020	iDiv (German Centre for Integrative Biodiversity Research) Halle-Jena-Leipzig – sDiv Individual postdoc grant [3 years]: “ <a href="#">Life on the edge: a new informatic toolbox to conserve wildlife populations under threat from future global change</a> ” (€223,000)
May 2018	DFG (Deutsche Forschungsgemeinschaft) via iDiv Halle-Jena-Leipzig – Flexible pool postdoc grant [3 years]: “ <a href="#">Dynamic aspects of chimpanzee diversification across Africa using paleoclimate and genomic data</a> ” (€210,000)
Apr 2018	Society for the Study of Evolution – Travel to Evolution 2018 in Montpellier (\$500 USD)
Oct 2016	FAG Basel – PhD extension grant [6 months] (12,000 CHF)
Feb 2016	Swiss Zoological Society – Travel grant to attend International Biogeography Society conference in Tucson, AZ, US (1000 CHF)
Jan 2015	Departement Umweltwissenschaften, University of Basel – Travel grant to attend International Biogeography Society conference in Bayreuth, Germany (600 CHF)
Aug 2014	European Science Foundation <a href="#">ConGenOmics short grant</a> – Specimen work at Natural History Museum London and Museo Delle Scienze, Trento (€1350 EUR)
May 2014	Departement Umweltwissenschaften, University of Basel – Travel grant to attend 16th African Amphibian Working Group meeting, Bwindi, Uganda (800 CHF)
Apr 2014	FAG Basel – Fieldwork grant for Tanzania (3500 CHF)
Sep 2013	Humer Foundation for Academic Talent – <a href="#">PhD grant</a> [3 years] (150,000 CHF)

### As co-PI (>€260,000)

Apr 2025	Karakterisering en bevordering van de inheem se Nederlandse Zwarte Bij (co-PI, main PI: Delphine Panziera, €160,000, Rijksdienst Voor Ondernemend Nederland)
Apr 2022	<a href="#">The suitability of road verges for protected grassland plant species assessed at the gene level</a> ” (co-PI, main PI: Sabrina Traeger, €10,000), iDiv (German Centre for Integrative Biodiversity Research) Halle-Jena-Leipzig – Flexpool Support Fund
Apr 2022	<a href="#">Human impact on biodiversity: How anthropogenic factors influence the genetic diversity and stress hormone levels of the critically endangered crested macaques across Indonesia</a> (co-PI, main PI: Marlen Kuecklich, €10,000), iDiv (German Centre for Integrative Biodiversity Research) Halle-Jena-Leipzig – Flexpool Support Fund
Nov 2020	<a href="#">Harnessing the power of RADseq data to achieve a more mechanistic understanding of rapid evolution</a> (co-PI, main applicant: Isabell Hensen, University of Halle, €240,000), iDiv (German Centre for Integrative Biodiversity Research) Halle-Jena-Leipzig - Flexible Pool PhD grant [4 years]

## Scientific services

### Editorships

- Associate Editor for Frontiers in Ecology and Evolution (2025-)
- Associate Editor for Frontiers in Genetics (2025-)
- Associate editor for Herpetological Bulletin (2011-2017)

### Reviews (>50 manuscripts, 3 competitive grant proposals, [here](#) is my Web of Science profile)

- Reviewer for: Molecular Ecology, Nature Communications, American Naturalist, Nature Communications Biology, Diversity and Distributions, Nature Climate Change, Evolution, Biological Journal of the Linnean Society, Frontiers in Zoology, Ecography, Journal of Biogeography, Biological Conservation, Ecology and Evolution, Molecular Phylogenetics and Evolution, Nature Scientific Data, Conservation Genetics Resources, Biological Indicators, Current Zoology, Journal of Zoological Systematics and Evolutionary Research, Asian Herpetological Research, Ecological Indicators, Zootaxa, African Zoology
- Grant reviews for GEO-BON-Microsoft Joint call (EBVs on the cloud), Agence Nationale de la Recherche, iDiv Flexpool.

### Conference Organisation

- Symposium organizer (co-organised with Mirte Bosse) at European Congress of Conservation Biology 2026 Leiden, entitled 'Using genomics to guide conservation efforts'
- Focus session organizer (co-organised with Bart Pannebakker) at NWO Life 2026 meeting in Egmond aan Zee, entitled 'Putting Genomes into Conservation Action'
- Scientific committee member, Society for Tropical Ecology 2026, Passau, Germany
- Scientific committee member and symposium chair, Zoology 2023, Leiden
- Symposium organiser at the ATBC 2019 meeting in Antananarivo, Madagascar entitled "[Broad-scale determinants of tropical diversification and community assembly](#)"
- Symposium chair for 'Historical and Paleobiogeography' (Jan 2019 at IBS Malaga)

### Boards and Committees

- Elected Society for Tropical Ecology [Scientific advisory board member](#) (2024-)
- Elected iDiv [associate member](#) (2022-2024)
- yDiv (Graduate School for young researchers, iDiv) [postdoc rep board member](#) (2019-2022)
- iDiv Internationalization committee (2021-2024)
- Research area co-organiser – "Biodiversity as driven by evolutionary and adaptive processes – from species to populations" at the German Centre for Integrative Biodiversity Research. Together with Sebastian Steinfartz, Martin Schlegel, Ekatarina Shelest, and Renske Onstein (2019-2021)
- Research area contributor ("iM2M: integrating meso to macro scales") at the German Centre for Integrative Biodiversity Research (2018-2020)

### Working group memberships

- African Amphibian Working Group (2011-)
- Amphibian Specialist Group (2016-), IUCN red list assessment East African amphibians (2016)
- GEO-BON [Genetic Composition Working group](#) (2020-)
- [sEnigmas](#), sDiv working group (2021-2024)
- ESEB progress meeting (Sept 2023) – Advances in Macrogenetics (main PIs: Lesley Lancaster, Katalin Csillery)

### Current society memberships

- Netherlands Society for Evolutionary Biology (2023-)
- Association for Tropical Biology and Conservation (2019-)
- International Biogeography Society (2014-)
- Society for the Study of Evolution (2016-)

## Training and courses attended

Mar-Jul 2025	Netherlands Language course (level B1), 10 weeks of 6 hours per week.
Jan 2025	Project management Essentials (4 day workshop), Wageningen, NL
Jun 2022	Teaching in Higher Education – improving didactic delivery (2 day workshop), Leipzig, DE
Sep 2021	Congen 2021: Conservation Genetics, Population Genomics, and Molecular Ecology. University of Montana
Jan 2020	How can biodiversity science contribute to the CBD post-2020 framework? Leipzig, DE Germany
Sep 2019	Introduction to Transcriptomics, Helmholtz Centre for Environmental Research (UFZ), Leipzig, DE
Jan 2019	sdm: a reproducible and extensible R package for species distribution modeling. International Biogeography Society biennial, Malaga, Spain
Nov 2018	How to become a Junior Research Group Leader. iDiv (German Centre for Integrative Biodiversity Research), Leipzig, Germany
Jan 2017	Cleaning Biodiversity Data. International Biogeography Society biennial, Tucson, AZ, US
Jul 2016	Bioinformatics of long-read sequencing – getting ready for the third generation, Swiss Institute for Bioinformatics/University of Bern, Switzerland
Feb 2016	Bioinformatics for Adaptation Genomics Winter School, Swiss Federal Institute of Technology, Weggis, Switzerland
Oct 2015	Introduction to high performance computing cluster use. Swiss Institute for Bioinformatics/ University of Basel, Switzerland
Jun 2015	Genotyping by Sequencing. The Genome Analysis Centre, Norwich, UK
Oct 2014	Genomics of the speciation continuum. University of Fribourg, Switzerland
Mar 2004	Short course in African wildlife management, Mweka college, Moshi, Tanzania

## Visits in other Labs and Fieldwork

Institute	Year	Duration	Purpose
University of Leipzig and iDiv (GEOBON) Essential Biodiversity Variables and Nature Futures Indicators for 2020 and beyond, Leipzig (Germany)	2020	1 week	Refining and selecting Essential Biodiversity Variables for the GEOBON inputs to the CBD post-2020 framework and Nature Futures
Xishuangbanna Tropical Botanical Garden and Kunming Institute of Botany, Chinese Academy of Sciences (China)	2017	2 weeks	Collaboration at Biogeography & Ecology group and data collection. Funded and invited by Prof. Yaowu Xing
Grenoble University, Grenoble (France)	2016	1 week	Workshop funded by French-Berkeley fund, invited by Prof. Brent Mishler and Dr. Wilfried Thuiller
University of Roehampton (UK)	2016	1 week	Invited talk and project proposal writing (invited by Dr. Simon Loader)
University of Basel (Walter Salzburger Lab)	2015	1 week	RAD-seq library preparation supervision of MSc student Marco Crotti
University of Basel (Walter Salzburger Lab)	2014	2 weeks	Library preparation for RAD-seq project (PhD)
Natural History Museum, London (UK)	2014	1 week	Data collection (museum sampling) funded by ESF ConGenomics grant
Museo Delle Scienze, Trento (Italy)	2014	1 week	Data collection (museum sampling) funded by ESF ConGenomics grant
Fieldwork in Tanzania (PhD project)	2014- 2015	8 months	Data collection (amphibian sampling) - Coastal Forests of Eastern Africa



Tanzania Savannah Research Programme, Kilombero Valley, (Tanzania)	2008	9 months	Research officer to record and monitor biodiversity and mentor volunteers
Corlett Maritima, Santo Antonio (Principe Island)	2005	3 months	Data collection for BSc placement
Mweka Wildlife College, Moshi (Tanzania)	2004	2 weeks	Short course in African wildlife management and contribution to large mammal field surveys in Ngorongoro crater

## Presentations

### Invited/plenary talks

Feb 2024	European Reference Genome Atlas (ERGA) seminar series. <a href="#">Life on the edge: a new bioinformatic toolbox to predict population vulnerability to global change</a> .
May 2023	Life on the edge: leveraging spatial and genomic data to make predictions of climate change vulnerability. <b>Naturalis Biodiversity Center</b> , Leiden, Netherlands
Sep 2022	Life on the edge: assessing intraspecific vulnerability to global change by integrating environmental, ecological and molecular data, Climate Change Genomics workshop: Vulnerability, adaptations & applications, British Ecological Society (Plenary), <b>University of Exeter</b> , UK
Feb 2022	Environmental genomics to understand past and future biodiversity responses to global change, <b>Florida Museum of Natural History</b> seminar series, USA (online)
Feb 2020	Long-term environmental stability, genomic diversity and demographic history of Pan-African chimpanzee populations, Laboratoire Evolution & Diversité Biologique, <b>Université Paul Sabatier</b> , Toulouse, France
Dec 2019	Using genomic data to understand biodiversity patterns and processes, Molecular Evolution and Systematics of Animals Research Group, <b>University of Leipzig</b> , Germany
Dec 2019	Population history and conservation of chimpanzees, Institute for Zoology, <b>University of Veterinary Medicine</b> , Hannover, Germany
Nov 2019	Chimpanzee population diversification using genomic and paleoclimate data, Molecular Evolution and Plant Systematics Research Group, <b>University of Leipzig</b> , Germany
Aug 2017	Spatial phylogenetics for biodiversity conservation in East Africa. <b>Xishuangbanna Tropical Botanical Gardens</b> , Xishuangbanna, Yunnan Province, China
Aug 2017	Spatial phylogenetics for biodiversity conservation in East Africa. Xishuangbanna Tropical Botanical Gardens, <b>Kunming Institute of Botany</b> , Kunming, Yunnan Province, China
Apr 2016	A phylogenetic approach to explain endemism in the East African coastal forests. <b>Estación Biológica de Doñana</b> , Seville, Spain
Apr 2016	Linking phylogenies and spatial data to explain amphibian endemism in the East African coastal forests. <b>Natural History Museum of Bern</b> , Switzerland
Mar 2016	Using Next Generation Sequencing and DNA barcoding to reveal the biodiversity value of the Coastal forests of Eastern Africa. Department of Life Sciences, <b>University of Roehampton</b> and <b>Natural History Museum London</b> , UK

### Conference talks

Jun 2023	Life on the edge: a new informatic toolbox to predict population vulnerability to global change. <b>European conference of Tropical Ecology</b> , Ceske Budejovice, Czech. Republic
May 2023	Life on the edge: a new informatic toolbox to predict population vulnerability to global change. <b>Zoology 2023</b> , Leiden, Netherlands
May 2023	Life on the edge: a new informatic toolbox to predict population vulnerability to global change. <b>Netherlands Society for Evolutionary Biology</b> , Ede, Netherlands
Apr 2022	Life on the edge: assessing intraspecific vulnerability to global change by integrating environmental, ecological and molecular data, <b>iDiv annual conference</b> , Leipzig (online)

Feb 2020	Long-term environmental stability, genomic diversity and demographic history of Pan-African chimpanzee populations, <b>ConsGen2020</b> (4th Annual meeting in Conservation Genetics), Senckenberg World of Biodiversity, Frankfurt, Germany
Sep 2019	Afrotropical biodiversity and conservation using high throughput and genomic data, <b>German Zoological Society</b> annual meeting, Jena, Germany
Aug 2019	Elucidating diversification mechanisms in tropical biodiversity hotspots, <b>Association for Tropical Biology and Conservation</b> , Antananarivo, Madagascar
Jan 2019	Elucidating diversification mechanisms in tropical biodiversity hotspots, <b>International Biogeography Society</b> biennial, Malaga, Spain
Aug 2018	Elucidating intraspecific diversification processes in the Afrotropics, <b>iDiv annual conference</b> , Leipzig
Jan 2017	Drivers of phylogenetic endemism and the conservation of centres of endemism in the coastal forests of Eastern Africa. <b>International Biogeography Society</b> , Tucson, USA
Dec 2015	Phylogenetic Endemism of a highly threatened biodiversity hotspot. <b>Young Systematists Forum</b> , Natural History Museum, London, UK.
Mar 2014	Vanishing refuge: The Coastal Forests of Eastern Africa. 16th <b>African Amphibian Working Group</b> conference, Bwindi, Uganda
Apr 2011	Newly developed microsatellite markers for the East African caecilian, <i>Boulengerula uluguruensis</i> and their utility in congeneric species. <b>British Herpetological Symposium</b> , Bangor, Wales

### Poster presentations

April 2025	Monitoring and conservation of aquatic genetic resources in the Netherlands, <b>Netherlands Society for Evolutionary Biology</b> , Ede, Netherlands
April 2022	Insights from the PanAf project: Long-term environmental stability, genomic diversity and demographic history of chimpanzee populations, <b>iDiv annual conference</b> , Leipzig
Aug 2018	Genome-wide data sheds light on amphibian diversification in the coastal forests of Eastern Africa. <b>Evolution</b> 2018, Montpellier, France
Jun 2017	Drivers of Phylogenetic Endemism and the Conservation of Centres of Endemism in the Coastal Forests of Eastern Africa. <b>Evolution</b> 2017, Portland, Oregon, US
Feb 2016	Are the Coastal forests of Eastern Africa a source area of diversity? Biology 16, <b>Swiss Zoological Society</b> , University of Lausanne, Switzerland
Aug 2015	Are the Coastal forests of Eastern Africa a source area of diversity? <b>Systematics Association</b> biennial, Oxford, UK
Jul 2015	Are the Coastal forests of Eastern Africa a source area of diversity? <b>Amphibian Conservation Research Symposium</b> , University of Cambridge, UK
Jun 2015	Are the Coastal forests of Eastern Africa a source area of diversity? Genotyping By Sequencing course, <b>The Genome Analysis Centre</b> , Norwich, UK
Feb 2015	Speciation patterns in the Coastal Forests of Eastern Africa. Biology 15, <b>Swiss Zoological Society</b> , Dubendorf, Switzerland
Jan 2015	Speciation patterns in the lowland forests of Eastern Africa. <b>International Biogeography Society</b> conference, University of Bayreuth, Germany
Sep 2014	Speciation patterns in the lowland forests of Eastern Africa. <b>Genomics of the speciation continuum</b> workshop, University of Fribourg, Switzerland

### Skills

Leadership:	Independent and able to plan and manage own workload as well as managing and developing junior staff. Competent in conceiving, acquiring funding and executing/managing projects to ensure that objectives and deadlines are met to provide highest quality outputs and reporting for relevant stakeholders. Supportive to upper management and in leading initiatives to improve workflows and efficiency
Technical:	Programming skills in R, bash and python, advanced HPC cluster use – see <a href="#">here</a> for a list of tools that I regularly use in my work. Proficient in ecoinformatics (spatial data analysis, species distribution modelling, handling large environmental and remote sensing datasets).

Wet laboratory skills for DNA extraction/PCR, genetic labwork (genetic, microsatellites), and genomic library preparation. Competence in bioinformatics (population genomics and phylogenomics, including Genotype-Environment Association analyses)

Communication: Strong communicator, presenting complex information in a simple and digestible manner to a wide audience (see teaching, presentations and posters). Additional experience in non-academic roles (e.g. > 10 years total in publishing and software development). Open minded, optimistic and diplomatic, collaborative with strong problem-solving abilities. Native speaker in English, B1 Dutch, A2 French, A1 Italian, A2 German, A2 Swahili

Additional skills: Driver's Licence for class B vehicles, Graphic design skills

**Referees** (further referees available upon request)

- Dr. Simon Loader. Principal Curator in charge of Vertebrates, Natural History Museum, Cromwell Road, London, UK, SW7 5BD ([simon.p.loader@gmail.com](mailto:simon.p.loader@gmail.com))
- Dr. Orly Razgour. Senior Lecturer, University of Exeter, Hatherly Building, Prince of Wales Road, Exeter, UK, EX4 4PS ([O.Razgour@exeter.ac.uk](mailto:O.Razgour@exeter.ac.uk))
- Dr. Annemieke Rattink. Centre for Genetic Resources, Wageningen University and Research, Radix Building Droevendaalsesteeg 1, 6708PB, Netherlands ([annemieke.rattink@wur.nl](mailto:annemieke.rattink@wur.nl))