

CURRICULUM VITAE
ALESSIO CAPOBIANCO

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EDUCATION

- 2021 **Ph.D. in Earth and Environmental Sciences – Paleontology**, University of Michigan, Ann Arbor (Michigan, USA).
- 2016 **Superior Graduate School Diploma in Biological Sciences**, Scuola Normale Superiore, Pisa (Italy).
- 2016 **M.Sc. in Conservation and Evolution**, University of Pisa, Pisa (Italy).
- 2014 **B.Sc. in Natural and Environmental Sciences**, University of Pisa, Pisa (Italy).

APPOINTMENTS

- 2022–
present **Postdoctoral Scientific Assistant**, Department of Geo- and Environmental Sciences, Ludwig Maximilian University, Munich (Germany).
- 2017–
2020 **Graduate Student Instructor**, Department of Earth and Environmental Sciences, University of Michigan, Ann Arbor (Michigan, USA).

AWARDS AND GRANTS

- 2024 LMU Mentoring Program of the Faculty of Geosciences. Up to € 1,600/yr for 6 years
- 2023 Best Presentation Award at 4th Young Researcher Meeting Morphology (Göttingen 2023). € 150
LMU Mittelbau@Geo Fund. € 1,500
- 2022 LMU excellent Post-Doc-Support-Fund. € 2,255
- 2021 Career Development Grant, The Palaeontological Association. £ 2,500
Ermine Cowles Case Student Award for outstanding scholarship and attainment in research (Museum of Paleontology, Department of Earth and Environmental Sciences; University of Michigan)
- 2020 Rackham Predoctoral Fellowship (University of Michigan). One-year support. \$ 49,322 est.
- 2019 Ermine Cowles Case Student Award for outstanding scholarship and attainment in research (Museum of Paleontology, Department of Earth and Environmental Sciences; University of Michigan)
- 2018 Scott Turner Award (Department of Earth and Environmental Sciences, University of Michigan). \$ 1,399
Paleontological Society student travel grant for 2018 International Paleontological Congress, Paris. \$ 500
Ermine Cowles Case Student Award for outstanding scholarship and attainment in research (Museum of Paleontology, Department of Earth and Environmental Sciences; University of Michigan)
- 2017 Scott Turner Award (Department of Earth and Environmental Sciences, University of Michigan). \$ 1,925
Rackham Graduate Student Research Award (University of Michigan). \$ 1,493
Rackham International Travel Grant (University of Michigan). \$ 1,300
Society of Systematics Biologists Graduate Student Research Award. \$ 1,000
- 2016 Earth and Environmental Sciences graduate program start-up funds (University of Michigan). \$ 2,000
Rackham Travel Grant (University of Michigan). \$ 800

Pre-candidacy Departmental Fellowship (Department of Earth and Environmental Sciences; University of Michigan). Fall term support. \$16,440 est.

Summa cum Laude Honors (M.Sc. University of Pisa)

2014 *Summa cum Laude* Honors (B.Sc. University of Pisa)

2011 Full-maintenance 5-year scholarship (Scuola Normale Superiore, Pisa). €40,000 est.

2010 Winner of the prize “Navicella d’Argento Giovani” for Sardinian excellence in the world (Cagliari, Italy)

PUBLICATIONS

- Capobianco, A.**, 2025. How many characters are needed to reconstruct a phylogeny? *Biology Letters*, 21: 20250288.
- Heckeberg, N.S., **Capobianco, A.**, Khakurel, B., Darlim, G. and Höhna, S., 2025. Practical guide and review of fossil tip-dating in phylogenetics. *Systematic Biology*, syaf050.
- Paterson, R.S., Mackie, M., **Capobianco, A.**, Heckeberg, N.S., Fraser, D., Demarchi, B., Munir, F., Patramanis, I., Ramos-Madrigal, J., Liu, S., Ramsøe, A.D., Dickinson, M.R., Baldreki, C., Gilbert, M., Sardella, R., Bellucci, L., Scorrano, G., Leonardi, M., Manica, A., Racimo, F., Willerslev, E., Penkman, K.E.H., Olsen, J.V., MacPhee, R.D.E., Rybczynski, N., Höhna, S. and Cappellini, E., 2025. Phylogenetically-informative proteins from an Early Miocene rhinocerotid. *Nature*, 643, pp.719–724.
- Capobianco, A.** and Höhna, S., 2025. On the Mkv model with among-character rate variation. *Systematic Biology*, syaf038.
- Capobianco, A.**, Zouhri, S. and Friedman, M., 2025. A long-snouted marine bonytongue (Teleostei: Osteoglossidae) from the early Eocene of Morocco and the phylogenetic affinities of marine osteoglossids. *Zoological Journal of the Linnean Society*, 203: zlae2015.
- Capobianco, A.** and Friedman, M., 2024. Fossils indicate marine dispersal in osteoglossid fishes, a classic example of continental vicariance. *Proceedings of the Royal Society B: Biological Sciences*, 291: 20241293.
- Capobianco, A.**, Foreman, E. and Friedman, M., 2021. A Paleocene (Danian) marine osteoglossid (Teleostei: Osteoglossomorpha) from the Nuussuaq Basin of Greenland, with a brief review of Palaeogene marine bonytongue fishes. *Papers in Palaeontology*, 7, pp.625–640.
- Capobianco, A.**, Beckett, H.T., Steurbaut, E., Gingerich, P.D., Carnevale, G. and Friedman, M., 2020. Large-bodied sabre-toothed anchovies reveal unanticipated ecological diversity in early Palaeogene teleosts. *Royal Society Open Science*, 7: 192260.
- Capobianco, A.** and Friedman, M., 2019. Vicariance and dispersal in southern hemisphere freshwater fish clades: a palaeontological perspective. *Biological Reviews*, 94, pp.662–699.
- Marchi, D., Ruff, C.B., **Capobianco, A.**, Rafferty, K.L., Habib, M.B. and Patel, B.A., 2016. The locomotion of *Babakotia radofilai* inferred from epiphyseal and diaphyseal morphology of the humerus and femur. *Journal of Morphology*, 277(9), pp.1199–1218.

INVITED TALKS

- Capobianco, A.**, Placing (fish) fossils into trees – The impact of paleontological data in phylogenetics and historical biogeography. *LMU Munich workshop: Putting fish (fossils) into context*, April 2024.
- Capobianco, A.**, Teleost fish evolution: A very short introduction to 250 million years of evolutionary history. *University of Antwerp Master’s course in Vertebrate Palaeontology (2200WEI’VEP)*, March 2023.
- Capobianco, A.**, Long faces and sabre-teeth: Failed experiments and ecological innovation in marine fishes after the end-Cretaceous mass extinction. *University of Birmingham Palaeo Discussion Group (online)*, May 2020.

CONFERENCE PRESENTATIONS (TALKS)

- Capobianco, A.** and Höhna, S., Modelling among-character rate variation with the Mkv model: lessons learned and perspectives for morphological phylogenetics. *The Palaeontological Association, 68th Annual Meeting* (Erlangen, 2024).
- Capobianco, A.** and Höhna, S., Among-character rate variation and the quest for an appropriate morphological model in Bayesian phylogenetics. *Evolution 2024 Montreal: III Joint Congress on Evolutionary Biology* (Montreal 2024).

- Capobianco, A.**, Revisiting the use of paleontology in biogeography in the 21st century: The Green River ichthyofauna as a case study. *12th North American Paleontological Convention* (Ann Arbor 2024).
- Capobianco, A.**, Andrews, J. V. and Friedman, M., The marine origins of freshwater osteoglossid bonytongues (arowanans and arapaimas). *XI Indo-Pacific Fish Conference* (Auckland 2023).
- Capobianco, A.**, Fossils reveal a marine origin for the freshwater arapaimas and arowanas (Teleostei: Osteoglossidae). *4th Young Researcher Meeting Morphology* (Göttingen 2023).
- Capobianco, A.**, Warnock, R. and Friedman, M., Fossils reveal marine long-distance dispersal in bonytongue fishes (Osteoglossomorpha), an iconic example of vicariance. *6th International Palaeontological Congress* (Khon Kaen 2022).
- Capobianco, A.** and Friedman, M., Fossils reveal long-distance marine dispersals and major environmental transitions in the biogeographic history of bonytongue fishes (Osteoglossomorpha). *Society of Vertebrate Paleontology 81st Annual Meeting* (Virtual 2021).
- Capobianco, A.** and Friedman, M., Fossil evidence for marine dispersal in an iconic example of vicariance. *2nd Crossing the Palaeontological-Ecological Gap* (Berlin 2021, virtual).
- Capobianco, A.** and Friedman, M., A long-snouted marine bonytongue (Teleostei: Osteoglossidae) from the early Eocene of Morocco: glimpse into the underappreciated diversity of an early Paleogene marine radiation of predatory fishes. *Society of Vertebrate Paleontology 80th Annual Meeting* (Virtual 2020).
- Capobianco, A.**, Feilich, K. and Friedman, M., Alpha-diversity dynamics of fish assemblages across the Late Cretaceous and Palaeogene. *Progressive Palaeontology 2020* (online).
- Capobianco, A.** and Friedman, M., A long-snouted marine bonytongue (Teleostei: Osteoglossidae) from the early Eocene of Morocco: glimpse into the underappreciated diversity of an early Paleogene marine radiation of predatory fishes. *III Great Lakes Student Paleoconference* (Ann Arbor 2019).
- Capobianco, A.**, Feilich, K. and Friedman, M., Temporal and biogeographic patterns of morphological disparity in an ancient lineage of teleost fishes (Teleostei: Osteoglossomorpha). *12th International Congress on Vertebrate Morphology* (Prague 2019).
- Capobianco, A.** and Friedman, M., Early Palaeogene marine bonytongue fishes (Teleostei: Osteoglossidae) and marine faunal recovery after the K/Pg extinction. *XVI Annual Meeting of the European Association of Vertebrate Palaeontologists* (Brussels 2019).
- Capobianco, A.**, Uncovering a post-K/Pg marine radiation of freshwater fishes: the unexplored diversity of early Paleogene marine osteoglossids (Teleostei; Osteoglossomorpha). *II Great Lakes Student Paleoconference* (Chicago 2018).
- Capobianco, A.**, Friedman, M., Beckett, H.T., Gingerich, P. and Carnevale, G., Saber-toothed giant anchovies (Teleostei: Engrauloidea) from the early–middle Eocene of Belgium and Pakistan. *Society of Vertebrate Paleontology 78th Annual Meeting* (Albuquerque 2018).
- Capobianco, A.**, Longbottom, A. and Friedman, M., Phylogenetic affinities of marine osteoglossomorphs and the role of marine dispersal in osteoglossomorph biogeography. *5th International Palaeontological Congress* (Paris 2018).
- Capobianco, A.** and Friedman, M., Fossil-based estimates for the origin times of intercontinental freshwater fish clades. *I Great Lakes Student Paleoconference* (Ann Arbor 2017).
- Capobianco, A.**, Friedman, M., Beckett, H.T., Gingerich, P. and Carnevale, G., Saber-toothed fossil anchovies (Teleostei: Engrauloidea) from the early–middle Eocene of Belgium and Pakistan, with comments on clupeiform phylogeny and feeding adaptations. *X Indo-Pacific Fish Conference* (Tahiti 2017).

CONFERENCE PRESENTATIONS (POSTERS)

- Capobianco, A.**, How many characters are needed to reconstruct a phylogeny? *Society of Vertebrate Paleontology 85th Annual Meeting* (Birmingham 2025).
- Capobianco, A.**, How many characters are needed to reconstruct a phylogeny? *4th Crossing the Paleontological-Ecological Gap* (Zurich 2025)
- Heckeberg, N., **Capobianco, A.**, Darlim, G., Khakurel, B. and Höhna, S., Potential and perils in using morphological characters for phylogenetic inference. *Palaeontological Association Annual Meeting* (Cambridge 2023).
- Capobianco, A.** and Höhna, S., A new relaxed probabilistic model of morphological evolution for robust phylogenetic inference. *Society for Molecular Biology & Evolution Annual Meeting* (Ferrara 2023).

- Capobianco, A.** and Friedman, M., Biogeographic history of widespread freshwater fish clades: what does the fossil record tell us? *Evolution 2018 Montpellier: II Joint Congress on Evolutionary Biology* (Montpellier 2018).
- Capobianco, A.** and Friedman, M., Biogeographic history of widespread freshwater fish clades: what does the fossil record tell us? *Michigan Geophysical Union 2018* (Ann Arbor 2018).
- Capobianco, A.** and Cellerino, A., Time-calibrated molecular phylogeny of killifishes (Cyprinodontiformes): evolutionary and biogeographical implications. *VIII Biennial Conference of the International Biogeography Society* (Tucson 2017).
- Marchi, D., Ruff, C.B., **Capobianco, A.**, Rafferty, K.L., Habib, M.B. and Patel, B.A., Postcranial suspensory adaptations of the sub-fossil lemur *Babakotia radofilai*. *XII Annual Meeting of the European Association of Vertebrate Palaeontologists* (Opole 2015).

CONFERENCE ORGANIZATION

- 2025: Program Committee, Society of Vertebrate Paleontology 85th Annual Meeting (Birmingham 2025)
- 2024: Program Committee, Society of Vertebrate Paleontology 84th Annual Meeting (Minneapolis 2024)
- 2019: Organizing Host Committee, III Great Lakes Student Paleoconference (Ann Arbor 2019)
- 2017: Organizing Host Committee, I Great Lakes Student Paleoconference (Ann Arbor 2017)

TEACHING AND MENTORING EXPERIENCE

- 2025: Invited lecturer for *Special Topics in Statistical Geobiology* (Ludwig Maximilian University of Munich)
- 2024–2025: Co-advisor of one student enrolled in the Master's program "Geobiology and Paleobiology" (MGAP, Ludwig Maximilian University of Munich)
- 2020: Graduate Student Instructor for *EARTH 296: Earth and Environmental Science Around Us* (University of Michigan)
- 2019–2020: Mentorship of one undergraduate research assistant (University of Michigan)
- 2019: Graduate Student Instructor for *EARTH 444: Analytical Paleobiology* (University of Michigan)
- 2018–2019: Co-mentorship of two undergraduate research assistants with Matt Friedman and Kara Feilich (University of Michigan)
- 2018: Graduate Student Instructor for *EARTH 437: Evolution of Vertebrates* (University of Michigan)
10-week pedagogical training for international Graduate Student Instructors (*ELI 994: College Teaching in the US: Pedagogy, Culture and Language*, University of Michigan)
- 2017: Graduate Student Instructor for *EARTH 444: Analytical Paleobiology* (University of Michigan)
Graduate Student Instructor for Earth and Environmental Sciences mini-courses (University of Michigan)
- 2014–2015: Invited lecturer for *077DD: Paleobiogeography* (University of Pisa)

REFeree SERVICE (JOURNALS)

Evolution; Paleobiology; Genome Biology and Evolution; Scientific Reports; Biology Letters; Ecology and Evolution; PLOS One; The Anatomical Record; Journal of Systematic Palaeontology; Insect Systematics and Diversity; Palaeontologia Electronica; PCI Paleontology; Hydrobiologia; Northeastern Naturalist.

MEDIA COVERAGE

My work has been featured on radio in: NPR Weekend Edition, UPR UnDisciplined podcast; and online in: Science Magazine, New Scientist, CNN, Newsweek, CNET, Smithsonian Magazine, Science Vs, National Geographic (Spanish and Russian editions), Science Alert, Live Science, Science News, IFLS, La Repubblica.

FIELDWORK EXPERIENCE

- 2019: Fossil prospecting and collecting in the Devonian Red Hill exposure of the Catskill Formation (Hyner, Pennsylvania, USA). Supervisor: Matt Friedman
- 2017: Arthropod (Gnathostomata: Placodermi) fossil prospecting and collecting in the Devonian Alpena Limestone (Alpena, Michigan, USA). Supervisor: Matt Friedman.

2014: Excavation of an almost complete fossil skeleton of titanosaurian sauropod (Dinosauria) from the Late Cretaceous Allen Formation (General Roca, Argentina). Supervisor: Leonardo Salgado.

PROFESSIONAL SOCIETY MEMBERSHIPS

Palaeontological Association; Society of Systematic Biologists; German Zoological Society; Society of Molecular Biology and Evolution.

SOFTWARE AND HARDWARE COMPETENCY

Programming languages: R, Python [basic], Matlab [basic]; Mimics and 3D Slicer (CT rendering software); advanced phylogenetics software (RevBayes, MrBayes, BEAST2); standard spreadsheet, word processing, and imaging software. Advanced user training with the Nikon XT H 225 ST Computed Tomography system.

LANGUAGE COMPETENCY

English (read, spoken, written); Italian (read, spoken, written); German (A1 level); French (read [basic], spoken [basic]); Polish (read [basic], spoken [basic]); Spanish (read [basic], spoken [basic]).

LICENSES AND CERTIFICATIONS

European driving license (vehicle categories: B and AM); PADI Advanced Open Water Diver, Deep Diver, and Dry Suit Diver certifications.