JULIÁN TORRES-DOWDALL

LABORATORY FOR ZOOLOGY AND EVOLUTIONARY BIOLOGY
DEPARTMENT OF BIOLOGY – UNIVERSITY OF KONSTANZ
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RESEARCH INTERESTS

Evolutionary Ecology | Phenotypic Variation | Molecular Evolution| Visual Ecology and Evolution

ACADEMIC EDUCATION

05.2012 **Ph.D. in Zoology**
Department of Biology, Colorado State University, USA
"*Intra- and Interspecific variation along environmental gradients: Adaptation, plasticity, and range limits*."
Advisor: Dr. Cameron K. Ghalambor

05.2005 **Master in Wildlife Management**
Centro de Zoología Aplicada. Universidad Nacional de Córdoba, Argentina
"Using stable isotopes to link seasonal habitat of neartic shorebirds."
Advisors: Dr. Adrian H. Farmer and Dr. Enrique H. Bucher

04.2002 **B.A. Biology, Zoology**
Facultad de Ciencias Naturales. Universidad Nacional de Tucumán, Argentina
Graduated with honours

APPOINTMENTS

Aug 2022- **Assistant Professor**
Department of Biological Sciences. University of Notre Dame. USA

2015-2022 **Project Leader (Deutsche Forschungsgemeinschaft)**
Department of Biology. University of Konstanz. Germany
Host: Prof. Dr. Axel Meyer

2013-2015 **Postdoctoral Fellow (Marie Curie - Zukunftskolleg)**
University of Konstanz. Germany
Host: Prof. Dr. Axel Meyer

2012-2013 **Postdoctoral Researcher**
Department of Biology. University of Konstanz. Germany
Host: Prof. Dr. Axel Meyer

2007-2012 **Graduate Student Research Assistant**
Department of Biology. Colorado State University. USA

2007-2012 **Graduate Student Teaching Assistant**
Department of Biology. Colorado State University. USA

2005-2007 **Fulbright Doctorate Fellow**
Fulbright OAS Fellowship in Ecology
Department of Biology. Colorado State University. USA
Host: Prof. Dr. Cameron Ghalambor

2002-2005 **US-FWS Fellow**
US Fish and Wildlife Service Fellowship
Centro de Zoología Aplicada. Universidad Nacional de Córdoba, Argentina

GRANTS AND FELLOWSHIPS

External Research Funding

2020-2023 **DFG Research Grant (CoPI)** **€322,610**
"*Applying integrative multispecies coalescent models to tackle the long-standing problem of species delimitation in allopatrically distributed populations*."
Deutsche Forschungsgemeinschaft (German Research Fundation, Project 447189140).
With Prof. Dr. Axel Meyer

2019-2022 **DFG Research Grant (PI)** **€370,450**
"*Ontogeny and evolution: parallel cooption of developmental pathways in the adaptive evolution of the visual system of Neotropical cichlid fish in recently colonized crater lakes*."
Deutsche Forschungsgemeinschaft (German Research Fundation, Project 428846198).

2015-2018 **DFG Research Grant (PI)** **€324,400**
"*Does side matter? Evolution of genital asymmetry in livebearing fishes.*"
Deutsche Forschungsgemeinschaft (German Research Fundation, Project 266972677).

2013-2015 **Marie Curie - Zukunftskolleg Incoming Fellowship**
Seventh Framework Program (FP7) Marie Curie Actions–People
Zukunftskolleg, Konstanz, Germany

2011 **CONICET Postdoctoral Fellowship (declined)**
Consejo Nacional de Investigaciones Científicas y Técnicas, Argentina
Two years, offer declined to accept position at University of Konstanz

2010-2012 **NSF-DDIG (CoPI)** **US$12,919**
"*Ecological aspects of species distribution limits: interaction of biotic and abiotic factors.*"
National Science Foundation, DEB- Doctoral Dissertation Research Improvement Grant
With Prof. Dr. Cameron Ghalambor

2010 **Society for the Study of Evolution Travel Award** **US$500**

2009 **Fulbright Commission Research Grant** **US$2,000**
U.S. Fulbright Commission, "Creating Regional Partnerships in the America's" Grant

2005-2007 **Fulbright Doctorate Fellowship in Ecology** **US$80,000**
U.S. Fulbright Commission - Organization of American States.

2011 **CONICET Doctoral Fellowship (declined)**
Consejo Nacional de Investigaciones Científicas y Técnicas, Argentina
Three years, offer declined to accept Fulbright Commission Fellowship

2002-2004 **U.S. FWS - University of Córdoba Scholarship**
Master in Wildlife Management Program
University of Córdoba, Argentina

Internal Competitive Research Funding (only those obtained in the last 5 years are listed)

2018	Mentorship Program (PI) - University of Konstanz, Germany	€4,325
2018	Young Scholar Fund (PI) - University of Konstanz, Germany	€23,617
2018	Transdepartmental teaching Program (CoPI) - University of Konstanz, Germany	€6,900
2017	Investment Program (PI) - University of Konstanz, Germany	€9,605
2016	Young Scholar Fund (PI) - University of Konstanz, Germany	€37,500
2016	Doctoral Fellowship Program (PI) - University of Konstanz, Germany	€9,200
2015	Co-funding Program (PI) - University of Konstanz, Germany	€7,800

PUBLICATIONS

(* equal contribution; § graduate student co-author)

Peer-reviewed Journal articles

48. Singh P., Irisarri I., **Torres-Dowdall J.**, Thallinger G.G., Svardal H., Lemmon E.M., Lemmon A.R., Koblmüller S., Meyer A., Sturmbauer C. (2022) Phylogenomics of trophically diverse cichlids disentangles processes driving adaptive radiation and repeated trophic transitions. ***Ecology and Evolution*** 1 2:e9077.
47. **Torres-Dowdall J.**, Rometsch S.J., Aguilera G., Kautt A.F., Reyes-Velasco J., Goyenola G., Petry A., Deprá G., da Graça, W., Meyer A. (2022) Genetic assimilation and the evolution of direction of genital asymmetry in anablepid fishes. ***Proceedings of the Royal Society B*** 289 (1974): 20220266
46. Karagic N., Härer A., Meyer A., **Torres-Dowdall J.** (2022) Thyroid hormone tinkering elicits integrated phenotypic changes potentially explaining rapid adaptation of color vision in cichlid fish. ***Evolution*** 74: 837-845.
45. Härer A., Ibrahim A., **Torres-Dowdall J.**, Meyer A. (2022) Heterogeneity across Neotropical aquatic environments affects prokaryotic and eukaryotic biodiversity based on environmental DNA. ***Environmental DNA*** 4: 469-484.
44. Rometsch S.J., **Torres-Dowdall J.**, Karagic N., Machado-Schiaffino G., Meyer A. (2021) Dual function and associated costs of a highly exaggerated trait in a cichlid fish. ***Ecology and Evolution*** 11: 17496–17508.
43. Mauro A.*, **Torres-Dowdall J.***, Marshall C.A., Ghalambor C.K (2021) A genetically based ecological trade- off contributes to setting a geographic range limit. ***Ecology Letters*** 24: 2739–2749.
42. **Torres-Dowdall J.,** Karagic N.§, Härer A.§, Meyer A. (2021) Diversity in visual sensitivity across Neotropical cichlid fishes via differential expression and intraretinal variation of opsin genes. ***Molecular Ecology*** 30: 1880–1891.
41. Potter T., Bassar R.D, Bentzen P., Ruell E.W., **Torres-Dowdall J.**, Handelsman C.A., Ghalambor C.K, Travis J., Reznick D.N., Coulson T. (2021) Environmental change, if unaccounted, prevents detection of cryptic evolution in a wild population. ***The American Naturalis*** 197: 29–46.
40. Kautt A., Kratochwil C.F., Nater A., Machado-Schiaffino G., Olave M., Henning F., **Torres-Dowdall J.**, Härer A., Hulsey C.D., Franchini P., Pippel M., Myers E.W., Meyer A. (2020) Contrasting signatures of genomic divergence during sympatric speciation. ***Nature*** 588: 106–111.
39. Härer A.§, **Torres-Dowdall J.**, Rometsch S.J.§, Yohannes E., Machado-Schiaffino G., Meyer A. (2020) Parallel and non-parallel changes of the gut microbiota during trophic diversification in repeated young adaptive radiations of sympatric cichlid fish. ***Microbiome*** 8: 149.
38. **Torres-Dowdall J.**, Rometsch S.J.§, Kautt A.F., Aguilera G., and Meyer A. (2020) The direction of genital asymmetry is expressed stochastically in internally fertilizing anablepid fishes. ***Proceedings of the Royal Society B.*** 287:20200969**.**
37. Rometsch S.J.§, **Torres-Dowdall J.**, and Meyer A. (2020) Evolutionary dynamics of pre- and postzygotic reproductive isolation in cichlid fishes. ***Philosophical Transactions of the Royal Society B.*** 375:20190535.
36. Schneider R.F.*, Rometsch S.J.*§, **Torres-Dowdall J.**, Meyer A. (2020) Habitat light sets the boundaries for the rapid evolution of cichlid fish vision, while sexual selection can tune it within those limits. Molecular Ecology. 29: 1476-1493.
35. **Torres-Dowdall J.**, Rometsch S.§, Aguilera G., Goyenola G., Meyer A. (2020) Asymmetry in genitalia is in sync with lateralized mating behavior but not with the lateralization of other behaviors. ***Current Zoology*** 66: 71-81.
34. Kratochwil CF., Liang Y., Urban S., **Torres-Dowdall J.,** Meyer A (2019) Evolutionary dynamics of structural variation at a key locus for color pattern diversification in cichlid fishes. ***Genome Biology and Evolution*** 11: 3452-3465
33. Reznick D.N., Bassar R.D, Handelsman C.A., Ghalambor C.K, Arendt J., Coulson T., Potter T., Ruell E.W., **Torres-Dowdall J.**, Bentzen P., Travis J. (2019) Eco-evolutionary feedbacks predict the time course of rapid life history evolution. ***The American Naturalist*** 194: 671-692.

32. Härer A.§, Karagic N.§, Meyer A., **Torres-Dowdall J.** (2019) Reverting ontogeny: rapid adaptive plasticity of color vision in cichlid fish. ***Royal Society Open Science*** 6: 190841. *http://dx.doi.org/10.1098/rsos.190841*

31. Aguilera G., Terán G., Mirande J.M., Alonso F., Rometsch S.§, Meyer A., **Torres-Dowdall J.** (2019) Molecular and morphological convergence to sulfide-tolerant fishes in a new species of *Jenynsia* (Cyprinodontiformes: Anablepidae), the first extremophile member of the family. ***PLoS one,*** https://doi.org/10.1371/journal.pone.0218810

30. Irisarri I., Singh P., Koblmüller S., **Torres-Dowdall J.**, Franchini P, Henning F., Fischer C., Lemmon A.R., Lemmon E.M., Thallinger G.G., Sturmbauer C., Meyer A. (2018) Phylogenomics uncovers early hybridization and adaptive loci shaping the radiation of Lake Tanganyika cichlid fishes. ***Nature Communications***. 9(1), 3159. https://doi.org/10.1038/s41467-018-05479-9

29. Härer A.§, Meyer A., **Torres-Dowdall J.** (2018) Convergent phenotypic evolution of the visual system via different molecular routes: How Neotropical cichlid fishes adapt to novel light environments. ***Evolution Letters***. DOI: https://doi.org/10.1002/evl3.71

28. Karagic N.§, Härer A.§, Meyer A., **Torres-Dowdall J.** (2018) Heterochronic opsin expression due to early light deprivation results in drastically shifted visual sensitivity in a cichlid fish: Possible role of thyroid hormone signaling ***Journal of Experimental Zoology Part B***. DOI: https://doi.org/10.1002/jez.b.22806

27. **Torres-Dowdall J.,** Karagic N.§, Plath M., Riesch R. (2018). Evolution in caves: Selection from darkness causes spinal deformities in teleost fishes. ***Biology Letters***. DOI: 10.1098/rsbl.2018.0197

26. Härer A.*§, **Torres-Dowdall J.***, Meyer A. (2017b) Rapid adaptation to a novel light environment: the importance of ontogeny and phenotypic plasticity in shaping the visual system of Nicaraguan Midas cichlid fish (*Amphilophus citrinellus* spp.). ***Molecular Ecology*** 26: 5582-5593.

25. Fitzpatrick S.W., Handelsman C.A., **Torres-Dowdall J.**, Ruell E.W., Broder D., Kronenberger J.A., Reznick D.N., Ghalambor C.K., Angeloni L.M., Funk C.W. (2017). Gene flow constrains and facilitates genetically based divergence in quantitative traits. ***Copeia*** 105: 462-474.

24. **Torres-Dowdall J**., Pierotti M.E.R, Härer A.§, Karagic N.§, Woltering J.M., Henning F., Elmer K.R., Meyer A. (2017) Rapid and parallel adaptive evolution of the visual system of Neotropical Midas cichlid fishes. ***Molecular Biology and Evolution*** 34: 2469-2485

23. **Torres-Dowdall J.***, Golcher-Benavides J.*§, Machado-Schiaffino G., Meyer A. (2017) The role of rare morph advantage and conspicuousness in the stable gold-dark colour polymorphism of a crater lake Midas cichlid fish. ***Journal of Animal Ecology*** 86: 1044-1053.

22. Machado-Schiaffino G., Kautt A., **Torres-Dowdall J.**, Baumgarten L., Henning F., Meyer A. (2017a) Incipient speciation driven by hypertrophic lips in Midas cichlid fishes? ***Molecular Ecology*** 26: 2348-2362.

21. Härer A.§, **Torres-Dowdall J.**, Meyer A. (2017) The imperiled fish fauna in the Nicaragua Canal zone. ***Conservation Biology*** 31: 86-95.

20. Kautt A., Machado-Schiaffino G., **Torres-Dowdall J.**, Meyer A. (2016) Incipient sympatric speciation in Midas cichlid fish from the youngest and one of the smallest crater lakes in Nicaragua due to differential use of the benthic and limnetic habitats? ***Ecology and Evolution*** 6: 5342-5357. doi: 10.1002/ece3.2287

19. Fitzpatrick S.W., Gerberich J.C., Angeloni L.M., Bailey L.L., Broder E.D., **Torres-Dowdall J.**, Handelsman C.A., López-Sepulcre A., Reznick D.N., Ghalambor C.K., Funk C.W. (2016). Gene flow from an adaptively divergent source causes rescue through genetic and demographic factors in two wild populations of Trinidadian guppies. ***Evolutionary Applications***. doi: 10.1111/eva.12356

18. Verheyen E, [and 69 others, including **Torres-Dowdall J.**] (2016). Oil extraction imperils Africa's Great Lakes. ***Science*** 354: 561-562.

17. **Torres-Dowdall J**, Henning F., Elmer K.R., Meyer A. (2015) Ecological and lineage specific factors drive the molecular evolution of rhodopsin in cichlid fishes. ***Molecular Biology and Evolution*** doi: 10.1093/molbev/msv159.

16. Handelsman CA, Ruell EW, **Torres-Dowdall J**, Ghalambor CK (2014) Phenotypic plasticity changes correlations of traits following experimental introductions of Trinidadian Guppies (Poecilia reticulata). ***Integrative and Comprative Biology*** doi:10.1093/icb/icu112.

15. **Torres-Dowdall J**, Machado-Schiaffino G, Kautt AF, Kusche H, Meyer A (2014) Differential predation on colour morphs of Nicaraguan Crater lake Midas cichlid fish: implications for the maintenance of gold-normal polymorphism. ***Biological Journal of the Linnean Society*** 112: 123-131.
14. Fitzpatrick SW, **Torres-Dowdall J,** Reznick DN, Ghalambor CK, Funk C (2014) Parallelism isn't perfect: Could disease and flooding drive a life history anomaly in Trinidadian guppies? ***The American Naturalist*** 183: 290-300.
13. **Torres-Dowdall J,** Dargent F, Handelsman CA, Ramnarine I, Ghalambor CK (2013). Ecological correlates of the distribution limits of two poeciliid species across a salinity gradient. ***Biological Journal of the Linnean Society*** 108: 790-805.
12. Dargent F, **Torres-Dowdall J**, Scott ME, Ramnarine IW, Fussmann GF (2013) Can mixed-species groups reduce individual parasite load? A field test with two closely related Poeciliid fishes (Poecilia reticulata and Poecilia picta). ***PLoS one*** 8(2):e56789.
11. **Torres-Dowdall J,** Handelsman CA, Reznick DN, Ghalambor CK (2012). Local adaptation and the evolution of phenotypic plasticity in Trinidadian guppies (*Poecilia reticulata*). ***Evolution*** 66: 3432-3443.
10. **Torres-Dowdall J,** Handelsman CA, Ruell E, Auer SK, Reznick DN, Ghalambor CK (2012**).** Fine scale local adaptation in life histories along a continuous environmental gradient in Trinidadian guppies. ***Functional Ecology*** 26: 616-627.
9. Echevarria AL, Lobo Allende IR, Juri MD, Chani JM, **Torres-Dowdall J,** Martín E (2011). Composition, structure, and seasonal variation in the bird community of the Botanical Garden of the Miguel Lillo Foundation. ***Acta Zool. Lilloana*** 55: 123-136. Argentina (in Spanish)
8. **Torres-Dowdall J**, Farmer AH, Abril M, Bucher EH, Ridley I (2010). Trace elements have limited utility for studying migratory connectivity in shorebirds that winter in Argentina. ***Condor*** 112: 490-498.
7. **Torres-Dowdall J**, Farmer AH, Bucher EH, Rye RO, Landis G (2009). Population variation in the isotopic composition of shorebirds feathers: implications for determine molting grounds. ***Waterbirds*** 32: 300-310.
6. Farmer AH, Cade BS, **Torres-Dowdall J** (2008). Fundamental limits to the accuracy of deuterium basemaps for identifying the spatial origin of birds. ***Oecologia*** 158: 183-192.
5. Strum KM, Alfaro M, Haase B, Hooper MJ, Johnson KA, Lanctot RB, Lesterhuis A, López L, Matz AC, Morales C, Paulson B, Sandercock BK, **Torres-Dowdall J**, Zaccagnini ME (2008). Plasma cholinesterase for monitoring pesticide exposure in neotropical migratory shorebirds. ***Ornitologia Neotropical*** 19:641-651.
4. **Torres-Dowdall J,** Osorio F, Suárez GM (2007). Nest building materials used by the Picaflor Rubí (*Sephanoides sephaniodes*) in the Valdiviana forest, Chile. ***Ornitologia Neotropical*** 18:433-437. (in Spanish)
3. **Torres-Dowdall J**, A Farmer, Bucher EH (2006). Using stable isotopes to determine migratory connectivity in birds: possibilities and limitations. ***El Hornero*** 21(2): 73-84, Argentina. (in Spanish)
2. Edelaar P, **Torres-Dowdall J**, Abril M (2005). Probable first record of a drinking seedsnipe (Family Thinocoridae) in the wild. ***WSG Bulletin*** 106: 62-63.
1. Farmer A, Abril M, Fernandez M, **Torres-Dowdall J**, Kester C, Bern C (2004). Using stable isotopes to associate migratory shorebirds with their wintering locations in Argentina. ***Ornitología Neotropical*** 15: 377-384.

Books and Book Chapters

3. **Torres-Dowdall J**, Meyer A (2021). Sympatric and allopatric diversification in the adaptive radiation of Midas cichlids in Nicaraguan lakes. *In* ME Abate and DLG Noakes*: The Behavior, Ecology and Evolution of Cichlid Fishes: A Contemporary Modern Synthesis.* Fish & Fisheries Series, vol 40. Springer, Dordrecht. https://doi.org/10.1007/978-94-024-2080-7_6.
2. Echevarria A, Chani J, Lobo I, Juri MD, **Torres-Dowdall J**, Martin E, Tribulo E (2007). Birds of the Botanical Garden of Miguel Lillo Fundation. Fundación Miguel Lillo, Tucumán, Argentina. (in Spanish)
1. Osinaga Acosta O, **Torres-Dowdall J**, Martin E, Lazcano E, Bucher EH (2007). Shorebirds of Mar Chiquita. *In* Bañados del Río Dulce y Laguna Mar Chiquita. (Bucher EH eds). Chapter 16: 263-275. Universidad Nacional de Córdoba, Argentina. (in Spanish)

TEACHING

2020-2021	Some assembly required. Graduate student seminar. In collaboration with Joost Woltering. Universität Konstanz.
2020-2021	Evolutionary Biology. Invited lecture: "Population genetics". Universität Konstanz.
2019-2020	Darwin comes to town. Graduate student seminar. In collaboration with Joost Woltering. Universität Konstanz.
2018-2019	Deep Homology? Graduate student seminar. In collaboration with Joost Woltering. Universität Konstanz.
2018	The ups and down of aquatic field biology. Vertiefungskurs on Quantitative methods in marine behavioural ecology. In collaboration with Dr. Alex Jordan and Dr. Ari Strandburg-Peshkin. Universität Konstanz.
2017-2018	Eco-Evolutionary Dynamics. Graduate student seminar. In collaboration with Andreas Kautt. Universität Konstanz.
2013-2018	Vertiefungskurs Molecular Evolutionary Biology. Lectures: "Experimental design and the Scientific method" and "Evolutionary ecology". Universität Konstanz.
2013-2015	Evolutionary Biology. Invited lecture: "Sexual Selection and Life History Evolution". Universität Konstanz.
2012-2013	Organisationsformen des Tierreichs. In collaboration with Christoph Kleineidam. Universität Konstanz.
2010-2011	LIFE103. Biology of Organisms, Laboratory. Colorado State University, USA.
2007-2011	BZ110. Principles of Animal Biology. Professor: Cameron Ghalambor and Dhruba Naug. Colorado State University, USA.
2008	BZ111. Animal Biology Laboratory. Colorado State University, USA.
2007	ECOL600. Population and Community Ecology. Professor: Kurt Fausch. Colorado State University, USA.
2000-2001	Entomology. Undergraduate Student Assistant. Professor: Mercedes Lizarre de Grosso. Facultad de Ciencias Naturales e Instituto Miguel Lillo. Argentina.

MENTORING

(due to departmental regulations at Universität Konstanz, my role is as thesis supervisor of all students)

(# reference to publication list in pages 3-5)

PhD student

2018-2022 **Sina Julia Rometsch.**
Project: Mechanisms of reproductive isolation during rapid speciation. University of Konstanz.
Achievements of student: 3 first-author publications (#36, #37, #44), 2 co-author publications (#39, #47)
Current position: Postdoctoral offer from Yale University, New Haven, Connecticut, USA

2015-2018 **Andreas Härer.**
Project: Of eyes and gut microbiomes in Nicaraguan cichlid fishes - convergent diversification at different levels of biological organization. University of Konstanz.
Achievements of student: 5 first-author publications (#23, #28, #31, #34, #41, #45), 4 co-author publications (#26, #30, #42, #46)
Current position: Posdoctoral researcher at University of California San Diego, California, USA

Master student

2022 **Cesar Bertinetti Cerrato**.
Project: The adaptive significance of the molecular variation in the visual system of cichlid fish. University of Konstanz.

2021 **Femina Prabhukumar**.
Project: Developmental plasticity of the visual system of Midas cichlid fishes in response to intrinsic and extrinsic factors. University of Konstanz.

2018 **Nidal Karagic**.
Project: The visual system of Neotropical cichlids: Heterochronic shift in visual sensitivities due to light deprivation and convergent evolution of tetrachromatic vision. University of Konstanz.
Achievements of student: 2 first-author publication (#28, #46), 3 co-author publications (#32, #42, #34)
Current position: PhD. Student at University of Konstanz, Konstanz, Germany

2017 **Sina Julia Rometsch**.
Project: The evolution of head humps in Midas cichlid fishes (*Amphilophus citrinellus* complex): A test for Zahavi's handicap principle. University of Konstanz.
Achievements of student: 3 co-author publications (#33, #40, #41)
Current position: PhD. Student at University of Konstanz, Konstanz, Germany

2015 **Jimena Golcher-Benavides.**
Project: Predator feeding preferences and implications of selective predation on the stability of a color polymorphism in Nicaraguan Midas cichlid. University of Konstanz.
Achievements of student: 1 first-author publication (#25)
Current position: PhD. Student at University of Wyoming, Wyoming, USA

Bachelor Honour Thesis

2021 **Thomas Stier.**
Project: Phenotypic plasticity in colour vision influences visual performance in the Midas cichlid *Amphilophus citrinellus*. University of Konstanz.
Current position: Master Student at University of Konstanz, Konstanz, Germany.

2021 **Lydia Heeb.**
Project: Do populations of *Amatitlania siquia* adapted to different light conditions show differences in visual performance? University of Konstanz.
Current position: Research Assistant at University of Konstanz, Konstanz, Germany.

2017 **Alena Kress.**
Project: The coevolution of sexually selected and life history traits: does polyandry correlate with reproductive effort in the livebearer fish *Jenynsia multidentata*? University of Konstanz.
Current position: Master Student at University of Konstanz, Konstanz, Germany.

2015 **Ann-Katherin Müller.**
Project: Linking stress-related behaviour to pituitary gene expression across the phylogeny of live-bearing fish (Poeciliidae). University of Konstanz.
Current position: Obtained a Master's degree at the Georg-August-University of Göttingen and then moved to industry.

2014 **Sina Julia Rometsch.**
Project: Asymmetric syndromes in fishes: are morphological asymmetry and behavior laterality integrated? University of Konstanz.
Achievements of student: 3 co-author publications (#31, #35, #38)
Current position: PhD. Student at University of Konstanz, Konstanz

Students Internships

2020 **Cesar Bertinetti Cerrato**. Project: "Chasing Photons: Variation in the Visual Sensitivity of Midas Cichlids to Light Environment Across the Nicaraguan Great and Crater Lakes." Vertiefungskurs Molecular Evolutionary Biology, University of Konstanz, Konstanz. Germany.

2019 **Femina Rachel Maxyn Prabhukumar**. Project: "Phenotypic plasticity of visual system in cichlid fish: Relationship between different pathways." Vertiefungskurs Molecular Evolutionary Biology, University of Konstanz, Konstanz. Germany.

2018 **Benedikt Speißer**. Project: "Colonization of Lake Apoyo by *Amatitlania siquia*." Vertiefungskurs Molecular Evolutionary Biology, University of Konstanz, Konstanz. Germany.

2017 **Alexander Zielinski**. Project: "Phenotypic and molecular characterization of crystalline lenses of Midas cichlids." Vertiefungskurs Molecular Evolutionary Biology, University of Konstanz, Konstanz. Germany.

2016 **Alisa Marchenko**. Project: "In situ hybridization in retinal tissue of cichlid fishes." Vertiefungskurs Molecular Evolutionary Biology, University of Konstanz, Konstanz. Germany.

2016	**Nidal Karagic**. Project: "The impact of light: How rearing conditions influence opsin gene expression during early development of cichlid larvae." Vertiefungskurs Molecular Evolutionary Biology, University of Konstanz, Konstanz. Germany.
2015	**Dan Popa.** Project: "Differential hemoglobin gene expression in livebearing fish." Vertiefungskurs Molecular Evolutionary Biology, University of Konstanz, Konstanz. Germany.
2015	**Marvin Kaupp.** Project: "Plasticity in opsin gene expression in Midas cichlids." Co-advisor. Vertiefungskurs Molecular Evolutionary Biology, University of Konstanz, Konstanz. Germany.
2014	**Sina Julia Rometsch.** Project: "Sexual dimorphism in visual sensitivity of colourful cichlids." Co-advisor. Vertiefungskurs Molecular Evolutionary Biology, University of Konstanz, Konstanz. Germany.
2014	**Silvan Goldenberg.** Project: "Phylogeny of Poeciliid fishes." University of Konstanz, Konstanz. Germany.
2013	**Anja Heubach.** Project: "Opsin evolution in neotropical cichlids." Vertiefungskurs Molecular Evolutionary Biology. University of Konstanz, Konstanz, Germany.
2010-2011	NR495-Ecological Undergraduate Research Experience (2 Students). Training and supervising undergraduate students in laboratory research and animal husbandry.
2010-2011	BZ495-Ecological Undergraduate Research Experience (3 Students). Training and supervising undergraduate students in research.

PROFESSIONAL SERVICES

Fellowship Referee

2022	Fondo Clemente Estable, Agencian Nacional de Innovación e Investigación. Uruguay.
2022	Discovery Fellowship Proposal. Biotechnology and Biological Sciences Reseach Council. UK.
2020	ZUKOnnect Fellowship, Zukunftskolleg, University of Konstanz; Germany.
2018	Human Frontier Science Program Research Grant; France.
2017	Fulbright – Bunge & Bonn Fellowship; Fulbright Commission Argentina.

Journal Referee

American Naturalist | Biological Journal of the Linnean Society | BMC Biology | Canadian Journal of Zoology | Colorado State University Journal of Undergraduate Research | Communications Biology | Copeia | Current Zoology | Ecology | Ecology and Evolution | Ecology Letters | Ecography | Environmental Biology of Fishes | Ethology | Evolution | Evolutionary Development | Evolutionary Ecology | Freshwater Biology | Frontiers in Zoology | Functional Ecology | Genesis | Heredity | Hydrobiologia | Iheringia Série Zoologia | Integrative and Comparative Biology | International Journal of Biological Macromolecules | Journal of Animal Biology | Journal of Evolutionary Biology | Journal of Experimental Zoology-B |PLoS ONE | Molecular Ecology | Proceedings of the Royal Society B | Science Advances | Scientific Reports | Zoological Science | Zoology

Meetings organization

2018	Un/certainty. International Workshop of the Zukunftskolleg Konstanz and the Martin Buber Society at the Hebrew University of Jerusalem. Konstanz, June 27th to 30th, 2018.
2007	Coordinator of the Symposium "South American Shorebirds" 8th Neotropical Ornithological Congress 2007 Maturin, Venezuela.
2006-2007	Front Range Student Ecology Symposium, Colorado State University
2005-2006	Department of Biology Student Symposium, Colorado State University.

Outreach

2018	Sehen alle Tiere die Welt wie wir? Ein Blick durch das Auge eines Buntbarsches. (Do all animals see the world like we do? A look through the eyes of a cichlid fish.) 5. Konstanzer Lange Nacht der Wissenschaft. June 23th 2018, Konstanz, Germany.
2007	Collaborated as a scientific advisor and illustrator in an educational book about marine turtles' ecology in Uruguay. The book was published at the end of 2007 by Karumbe, Uruguay.
2003	Lecturer at the "Workshop on Identification and Conservation of Shorebirds". Aves Argentinas. Canals, Córdoba, Argentina.

PRESENTATIONS

Invited Talks and Seminars

Torres-Dowdall J. *Local variation and parallel evolution of lake cichlid fishes: morphological and genetic diversity in Midas cichlids*. Current Topics in Zoology and Evolution Seminar. Department of Environmental Sciences. University of Basel. November 15, **2021**

Torres-Dowdall J. *Local variation and parallel evolution of lake cichlid fishes: morphological and genetic diversity in Midas cichlids*. ICDP workshop: Paleoclimate, Paleoenvironment, and Paleoecology of Neogene Central America: Bridging Continents and Oceans (NICA-BRIDGE). March 2, **2020**

Torres-Dowdall J. *Does side matters? Evolution of genital asymmetry in Anablepidae fishes*. FB-Biology, Universität Konstanz, December 19, **2019**

Torres-Dowdall J. *Ecological correlates of the molecular evolution of opsin genes in Tanganyikan cichlids.* Alpine Tanganyikan Cichlid Symposium, Konstanz, Germany, July 19, **2018.**

Torres-Dowdall J. *Selección natural y el origen de la diversidad biológica: la radiación adaptativa de las Mojarras (Amphilophus cf citrinellus) (Natural selection and the origin of biological diversity: the adaptive radiation of Midas cichlids (Amphilophus cf citrinellus))*. Universidad Nacional Autonoma de Nicaragua, Managua, Nicaragua. February 8, **2018.**

Torres-Dowdall J. *What is the adaptive value of visual sensitivity "adaptive" variation.* Collective Behaviour Research Group Seminar. Max Plank Institute for Ornithology, June 22, **2017**

Torres-Dowdall J. *Multiple molecular mechanisms underlie adaptive variation in the visual system of cichlid fish.* FB-Biology, Universität Konstanz, June 8, **2017**

Torres-Dowdall J., Yohannes E. *You are what you eat and where you move: stable isotopes as biomarkers to provide information about mobility*. Mobility symposium. Martin Buber Foundation, University of Jerusalem, Israel, December 10-12, **2016.**

Scientific meetings (only listing oral presentation as presenter)

2021- Cichlid Science Virtual Meeting, Cambridge, UK, September 1-2.
2021- Virtual Evolution 2021, SEE, June 21-25.
2019- Evolution Meetings, Providence, RI, June 21-25.
2018- Joint Evolution Meetings, Montpellier, France, June 18-22.
2017- Cichlids Science Meeting, Prague, Czech, September 4-7.
2016- Evolution Meeting, Austin, TX, USA, June 17-21.
2015- Evolution Meeting, Guarujá, Brasil, June 26-30.
2014- Evolution Meeting, Raleigh, NC, USA, June 20-24.
2014- Symmetry and Asymmetry in Biology Symposium, Paris, France, April 3-4
2012- Evolution Meeting, Ottawa, Ontario, Canada, July 6-10.
2012- 105th Annual Meeting of The German Zoological Society. Konstanz, Germany. September 21-24.
2010- Evolution Meeting, Portland, Oregon, June 25-29.
2009- American Society of Ichthyologists and Herpetologists Joint Meeting, Portland, Oregon, July 22-27.