

Akinobu Watanabe

Associate Professor of Anatomy

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Research Program

1. Archosaur paleobiology, focusing on brain and skull evolution in non-avian and avian dinosaurs.
2. Statistical shape analysis, advancing phenotypic characterization of biological forms.
3. Computational biology, evaluating the theory and practice of phylogenetic and morphometric methods.

Education

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| 2016 | Ph.D. in Comparative Biology Richard Gilder Graduate School at the American Museum of Natural History. Thesis: “Variations on the theme of morphological characterization, development and evolution, featuring computed tomography imaging, geometric morphometrics, phylogenetics and Archosauria.” (Advisor: Mark A. Norell) |
| 2012 | M.Sc. in Biological Science Florida State University. Thesis: “The ontogeny of cranial morphology in extant crocodilians and its phylogenetic utility: a geometric morphometric approach.” (Advisor: Gregory M. Erickson) |
| 2009 | B.A. in Biological Sciences, Geophysical Sciences; Minor in Music University of Chicago. Thesis: “The manus and pes of <i>Stegosaurus</i> and implications for trackway analysis.” (Advisor: Paul C. Sereno) |

Professional Appointments

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| 2023– | Associate Professor Department of Anatomy, NYIT College of Osteopathic Medicine |
| 2016– | Research Associate Division of Paleontology, American Museum of Natural History |
| 2018– | Scientific Associate Life Sciences Department, Natural History Museum, London |
| 2018–2023 | Assistant Professor Department of Anatomy, NYIT College of Osteopathic Medicine |
| 2018–2020 | Associate Editor <i>Data in Brief</i> |
| 2017 | Postdoctoral Research Associate Natural History Museum, London (PI: Anjali Goswami) |
| 2016–2017 | Postdoctoral Research Associate University College London (PI: Anjali Goswami) |

Peer-Reviewed Publications

*mentees

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| 2025 | *Green, T.L., D.I. Kay, A. Watanabe , P.M. Gignac. Species-specific casque shapes in the genus <i>Casuaris</i> and implications for visual display. <i>Ornithology</i> 2025:ukaf026. |
| | Molnar, J.L., C.E. Davis, A. Watanabe , E. Dickinson. Quantifying muscle architecture in embryos using diceCT and algorithmic fascicle tracking. <i>The Anatomical Record</i> . https://doi.org/10.1002/ar.70019 . |
| | White, H.E., M. Camaiti, A.S. Tucker, A. Watanabe , A. Goswami. A suture in time: The ontogeny of cranial suture morphology in mammals. <i>Journal of Anatomy</i> doi: 10.1111/joa.70035. |

- 2024 | Balanoff, A.M., E. Ferrer, L. Saleh, P. Gignac, M.E. Gold, J. Marugán-Lobón, M. Norell, D. Ouellette, M. Salerno, **A. Watanabe**, S. Wei, G.S. Bever, P.Vaska. Brain activity and the evolution of avian powered flight. *Proceedings of the Royal Society B* 291:20232172.
- *Forcellati, M., *T.L. Green, **A. Watanabe**. Neuroanatomical shape variation of large-bodied, flightless ratites (Aves: Palaeognathae) emerges through distinct ontogenetic trajectories. *Royal Society Open Science* 11(9):240765.
- Gignac, P.M., [...], **A. Watanabe**, et al. [76 authors]. The non-clinical tomography users research network: Why it matters. *Journal of Tomography of Materials and Structures* 5:100031.
- King, L., Z. Qi, D.L. Dufeu, S. Kawabe, L. Witmer, C. Zhou, E.J. Rayfield, M.J. Benton, **A. Watanabe**. Endocranial development in non-avian dinosaurs reveals an ontogenetic brain trajectory distinct from extant archosaurs. *Nature Communications* 15:7415.
- Silva, C., Y. Piadyk, J. Rulff, D. Panozzo, M.B. Silva, A.A.F. Saraiva, N.C. Oliveira, F.J. de Lima, R.A.M. Bantim, O.F. Gomes, **A. Watanabe**. PaleoScan: Low-cost easy-to-use high-volume fossil scanning. *Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems* 708:1–16.
- Yu, C., **A. Watanabe**, Z. Qin, J.L. King, L.M. Witmer, Q. Ma, X. Xu. Convergent avialan brain morphology in *Sinovenator* (Troodontidae, Theropoda). *Communications Biology* 7:168.
- Yu, C., F. Qin, **A. Watanabe**, W. Yao, Y. Li, Z. Qin, Y. Liu, H. Wang, Q. Jiangzuo, A. Hsiang, C. Ma, E. Rayfield, M. Rayfield, M.J. Benton, X. Xu. Artificial intelligence in paleontology. *Earth-Science Reviews* 252:104765.
- Watanabe, A.**, *I. Arqam, *M.J. Taylor, J. Molnar. Revisiting old questions with new methods: the effect of embryonic motility on skull development in the domestic chick. *Journal of Morphology* 285:e21785.
- 2023 | Cerio, D.G., C.J. Llera, A. Hogan, A.M. Balanoff, **A. Watanabe**, G.S. Bever. Differential growth of the adductor muscles and brain in the chick *Gallus gallus* with comments on the fossil record of stem-group birds. *Journal of Morphology* 284:e21622
- Goswami, A., E. Noirault, E.J. Coombs, J. Clavel, A.-C. Fabre, T.J.D. Halliday, M. Churchill, A. Curtis, **A. Watanabe**, N.B. Simmons, B. Beatty, J.H. Geisler, D.L. Fox, R.N. Felice. Development and ecology underlie mosaic evolution of the placental skull. *Philosophical Transactions of the Royal Society B* 378:20220083.
- Molnar, J., **A. Watanabe**. Morphological and functional regionalization of trunk vertebrae as an adaptation for arboreal locomotion in chameleons. *Royal Society Open Science* 10:221509.
- *Tharakan, S., *N. Shepherd, R. Felice, A. Goswami, D. Gower, E. Stanley, **A. Watanabe**. High-density geometric morphometric analysis of intraspecific cranial integration in the barred grass snake (*Natrix helvetica*) and green anole (*Anolis carolinensis*). *Integrative Organismal Biology* 5:obad022.
- Watanabe, A.**, *S.S. Marshall, P.M. Gignac. Dumbbell-shaped brains of Polish crested chickens as a model system for the evolution of novel brain morphologies. *Journal of Anatomy* 243:421–430.
- 2022 | Goswami, A., E. Noirault, E.J. Coombs, J. Clavel, A.-C. Fabre, T.J.D. Halliday, M. Churchill, A. Curtis, **A. Watanabe**, N.B. Simmons, B. Beatty, J.H. Geisler, D.L. Fox, R.N. Felice. Attenuated evolution of mammals through the Cenozoic. *Science* 378:377–383
- 2021 | **Watanabe, A.**, A.M. Balanoff, P.M. Gignac, M.E.L. Gold, M.A. Norell. Novel neuroanatomical integration and scaling define avian brain shape evolution and development. *eLife* 10:e68809. <https://doi.org/10.7554/eLife.68809>. Press Coverage: [AMNH](#)
- 2020 | Felice, R.F., **A. Watanabe**, A.R. Cuff, M. Hanson, B.-A.S. Bhullar, E.R. Rayfield, L.M. Witmer, M.A. Norell, A. Goswami. Decelerated dinosaur evolution at the origin of birds. *PLoS Biology* 18(8):e3000801. <https://doi.org/10.1371/journal.pbio.3000801>. Press Coverage: [Scientific American](#), [NHMUK](#)

- Ksepka, D.T., A.M. Balanoff, N.A. Smith, G.S. Bever, B.-A. Bhullar, E. Bourdon, E.L. Braun, J.G. Burleigh, J.A. Clarke, M.W. Colbert, J.R. Corfield, F.J. Degrange, V.L. de Pietri, C.M. Early, D.J. Field, P.M. Gignac, M.E.L. Gold, E.D. Jarvis, R.T. Kimball, S. Kawabe, L. Lefebvre, J. Marugán-Lobón, C.S. Mongle, A. Morhardt, M.A. Norell, R.C. Ridgely, R.P. Scofield, C.P. Tambussi, C.R. Torres, M. van Tuinen, S.A. Walsh, **A. Watanabe**, L.M. Witmer, A.K. Wright, L.E. Zanno, J.B. Smaers. Tempo and pattern of avian brain size evolution. *Current Biology* 30:1–11. doi: [10.1016/j.cub.2020.03.060](https://doi.org/10.1016/j.cub.2020.03.060). Press Coverage: [CNN](#), [UK Daily Mail](#), [ScienceDaily](#)
- Hogan, A.V.C., **A. Watanabe**, A.M. Balanoff, G.S. Bever. Comparative growth in the olfactory system of the developing chick with considerations for evolutionary studies. *Journal of Anatomy* 237:225–240. doi: [10.1111/joa.13197](https://doi.org/10.1111/joa.13197)
- 2019 **Watanabe, A.**, A.-C. Fabre, R.N. Felice, A. Maisano, J. Müller, A. Herrel, A. Goswami. Ecomorphological diversification in squamates from conserved pattern of cranial integration. *Proceedings of National Academy of Sciences USA* 116:14688–14697. doi: [10.1073/pnas.1820967116](https://doi.org/10.1073/pnas.1820967116). Press Coverage: [NHMUK](#), [NYIT](#)
- Bardua, A., R.N. Felice, **A. Watanabe**, A.-C. Fabre, A. Goswami. A practical guide to sliding and surface semilandmarks in morphometric analyses. *Integrative Organismal Biology* 1(1):obz016. doi: [10.1093/icb/obz016](https://doi.org/10.1093/icb/obz016)
- Goswami, A., **A. Watanabe**, R.N. Felice, C. Bardua, A.-C. Fabre, P.D. Polly. High-density morphometric analysis of shape and integration: The good, the bad, and the not-really-a-problem. *Integrative and Comparative Biology* 59:669–683. doi: [10.1093/icb/icz120](https://doi.org/10.1093/icb/icz120)
- Felice, R.N., **A. Watanabe**, A.R. Cuff, E. Noirault, D. Pol, L.M. Witmer, M.A. Norell, P.M. O'Connor, A. Goswami. Evolutionary integration and modularity in the archosaur cranium. *Integrative and Comparative Biology* 59:371–382. doi: [10.1093/icb/icz052](https://doi.org/10.1093/icb/icz052)
- Watanabe, A.**, P.M. Gignac, A.M. Balanoff, T.L. Green, N.J. Kley, M.A. Norell. Are endocasts good proxies for brain size and shape in archosaurs throughout ontogeny? *Journal of Anatomy*. doi: [10.1111/joa.12918](https://doi.org/10.1111/joa.12918). **Top 20 Most Downloaded Article of the Year in Journal of Anatomy (2018, 2019)**
- 2018 Gold, M.E.L., **A. Watanabe**. Flightless birds are not neuroanatomical analogs of non-avian dinosaurs. *BMC Evolutionary Biology* 18:190. doi: [10.1186/s12862-018-1312-0](https://doi.org/10.1186/s12862-018-1312-0). Press Coverage: [AMNH](#), [Suffolk University](#)
- Watanabe, A.** How many landmarks are enough to characterize shape and size? *PLoS ONE* 13(6):e0198341. doi: [10.1371/journal.pone.0198341](https://doi.org/10.1371/journal.pone.0198341)
- 2016 Marugán-Lobón, J., **A. Watanabe**, S. Kawabe. Studying avian encephalization using geometric morphometrics. *Journal of Anatomy* 229:191–203. Symposium on “Evolving approaches for studying the anatomy of the avian brain”. doi: [10.1111/joa.12476](https://doi.org/10.1111/joa.12476)
- Watanabe, A.** The impact of poor sampling of polymorphisms on cladistic analysis. *Cladistics* 32:317–334. doi: [10.1111/cla.12130](https://doi.org/10.1111/cla.12130)
- 2015 **Watanabe, A.**, M.E.L. Gold, S.L. Brusatte, R.B.J. Benson, J. Choiniere, A. Davidson, M.A. Norell. Vertebral pneumaticity in the ornithomimosaur *Archaeornithomimus* (Dinosauria: Theropoda) revealed by computed tomography imaging and reappraisal of axial pneumaticity in Ornithomimosauria. *PLoS ONE* 10(12):e0145168. doi:[10.1371/journal.pone.0145168](https://doi.org/10.1371/journal.pone.0145168). Press Coverage: [Forbes](#), [AMNH](#)
- 2014 **Watanabe, A.**, D.E. Slice. The utility of cranial ontogeny for phylogenetic inference: a case study in crocodylians using geometric morphometrics. *Journal of Evolutionary Biology* 27:1078–1092. doi: [10.1111/jeb.12382](https://doi.org/10.1111/jeb.12382)
- 2013 Brusatte, S.L., M. Vremir, Z. Csiki, M.A. Norell, A.H. Turner, **A. Watanabe**, G.M. Erickson. The osteology of *Balaur bondoc*, an island-dwelling dromaeosaurid (Dinosauria: Theropoda) from the Late Cretaceous of Romania. *Bulletin of the American Museum of Natural History* 374:1–100. doi: [10.1206/798.1](https://doi.org/10.1206/798.1)

Watanabe, A., G.M. Erickson, P.S. Druckenmiller. An ornithomimosaur from the Upper Cretaceous Prince Creek Formation of Alaska. *Journal of Vertebrate Paleontology* 33:1169–1175. doi: 10.1080/02724634.2013.770750

Brusatte, S.L., M. Vremir, **A. Watanabe**, Z. Csiki-Sava, D. Naish, G. Dyke, G.M. Erickson, M.A. Norell. An infant ornithomimid dinosaur tibia from the late Cretaceous of Sebeş, Romania. *Terra Sebus: Acta Musei Sabesiensis* 5:627–644.

Books

2020 **Watanabe, A.** (Editor, Co-Author), Y. Yang, Z. Chuang. *Tyrannopedia* (in Japanese). Kōdansha. 180 pp. [Amazon Japan page](#)

Computational Programs

2018 **LaMDA: LandMark Data Analysis.** R package for simulating shape data and assessing the robustness of landmark sampling. <https://github.com/akiopteryx/lambda>

2015 **PERDA: Permutational Entry Replacement Data Analysis.** TNT script to evaluate the impact of poor sampling of polymorphisms on resulting tree topology. <https://github.com/akiopteryx/PERDA>

2014 **PermuTree.** Python script to perform permutational regression analysis on phylogenetic trees. <http://datadryad.org/resource/doi:10.5061/dryad.14fn1>

Tree Comparison. TNT script to test the significance of topological differences between phylogenetic trees. <http://datadryad.org/resource/doi:10.5061/dryad.14fn1>

Research Grants

2024 **NSF Computer and Information Science and Engineering RET Supplement Grant** “Combined 3-D Imaging, Embryology, and Data Science Experience for Grade 6–8 Educators in New York” (as PI): \$30,000

2023 **NIH Cardiovascular Disease Research** “Obesity-related hypertension: the contribution of PPAR gamma acetylation and asprosin” (as Co-PI; PI: M.A. Sepulveda): \$428,400

2021 **NSF Integrative Organismal Systems CAREER Grant** “Evo-developmental interactions of craniofacial and brain anatomy” (as PI): \$710,855

2018 **NSF Major Research Instrumentation Grant** “Acquisition of a high-energy micro-computed tomography scanner for inter- and multi-disciplinary STEM research” (as Senior Personnel; PI: Simone Hoffmann): \$426,621

NSF Division of Environmental Biology “Ecomorphological diversification and the origin of phenotypic disparity in crocodile-line archosaurs” (as Senior Personnel; PI: Alan Turner): \$579,508

2017 **Paleontological Society Newell Early Career Grant** “Elucidating the drivers of cranial evolution in reptiles, amphibians, and their extinct relatives through large-scale morphometric analysis.”: \$5,000

2016 **SYNTHESYS for research trips in the EU** “Elucidating drivers of cranial evolution in lizards, snakes, and their extinct relatives through large-scale phenomic analysis.”

2015 **NSF Division of Environmental Biology** “Unraveling the deep history of avian neurological complexity: implications for the origins of flight and organization of the modern avian brain.” (as Senior Personnel; PI: Amy Balanoff): \$521,296

Society of Vertebrate Paleontology Mary R. Dawson Predoctoral Grant: \$3,000

Jurassic Foundation Grant: \$2,566

2014	NSF Doctoral Dissertation Improvement Grant “Five-dimensional analysis of alligator and bird encephalization: integrating changes in brain shape along developmental and evolutionary timelines.”: \$20,137
2012	ExxonMobil Geosciences Grant : \$7,500
2011	NSF Graduate Research Fellowship : \$121,500 Sigma Xi Grants-in-Aid of Research : \$400 Robert B. Short Zoology Scholarship Florida State University: \$150

Awards

2022	Early Career Investigator Award American Association for Anatomy
2020	American Association for Anatomy BioArt Winner 2020 Anatomy BioArt Winners Best Paper Prize Runner-Up Journal of Anatomy
2019	Top Downloaded Paper 2018–2019 Journal of Anatomy Best Paper Prize Runner-Up Journal of Anatomy
2018	Top Downloaded Article 2017–2018 Journal of Anatomy

Presentations

Invited Talks

2025	InspireScience Symposium New York University, New York, NY
2024	Stamford Museum & Nature Center Stamford, CT
2023	University of Alabama Tuscaloosa, AL
2022	Early Career Investigator Award Session Experimental Biology, Philadelphia, PA University of Chicago Chicago, IL [Virtual] Humboldt State University Arcata, CA [Virtual] Vertebrate Paleontology Group London, U.K.
2021	University of Texas at Arlington Arlington, TX [Virtual] Puerto Ideas Chile [Virtual]
2019	Natural History Museum London, U.K. Adelphi University Garden City, NY Farmingdale State College East Farmingdale, NY
2018	Japanese Association of Scholars in Science New York, NY [presented in Japanese]
2017	University of Bristol Bristol, U.K. Institute of Vertebrate Paleontology and Paleoanthropology Beijing, China Museum für Naturkunde Berlin, Germany Grant Museum of Zoology London, U.K.
2015	Oklahoma State University Center for Health Sciences Tulsa, OK
2014	National Evolutionary Synthesis Center Durham, NC
2013	Harvard University Department of Organismic & Evolutionary Biology, Cambridge, MA Metropolitan Society of Natural Historians Darwin Symposium, New York, NY
2010	Japanese Society for Humanistic Studies Detroit Metro, MI [presented in Japanese]

Podium

*mentees

- 2025 *T.L. Green, **A. Watanabe**, J.M. Berman, M.C. Granatosky, P.M. Gignac. The practical utility of UV biofluorescence in the casques of cassowaries. Anatomy Connected Meeting, Portland, OR.
- J.L. Monar, C. Davis, E. Dickinson, **A. Watanabe**. Quantifying muscle architecture in embryos using DiceCT and algorithmic tracking. Society for Integrative and Comparative Biology Meeting, Atlanta, GA.
- 2024 *A. Ansari, *M. Shah, **A. Watanabe**. Effect of obesity on perivascular adipose tissue volume. NorthEast Regional Vertebrate Evolution Symposium, New York, NY.
- *I. Arqam, *L. Yang, **A. Watanabe** New, open-access quizzes for learning and recall of human anatomy structures. NorthEast Regional Vertebrate Evolution Symposium, New York, NY.
- *A. Mehaboob, *A. Ansari, *M. Rahman, **A. Watanabe**. Use your brain! Creating 3-D neuroanatomy puzzles in a VR environment. NorthEast Regional Vertebrate Evolution Symposium, New York, NY.
- M. Forcellati, J. Napoli, A. Zietlow, D. Meyer, **A. Watanabe**, C. Raxworthy. Using machine learning and phylogenetic comparative methods for predicting ecology in fossils from inner ear bony labyrinths of toxiciferans (Squamata, Reptilia). NorthEast Regional Vertebrate Evolution Symposium, New York, NY.
- T. Goldblatt, **A. Watanabe**, P. Gignac, J. Ng, S. Chariwala, *C. Lee, *T. Green. The chamber of secrets: Do cassowary cranial casques function as vocal resonators? NorthEast Regional Vertebrate Evolution Symposium, New York, NY.
- *R. Heerbrandt, *S. Landman, K. Hurdle, *M. Taylor, **A. Watanabe** Could congenital hydrocephalus lead to evolution of novel brain morphologies in domestic chickens? NorthEast Regional Vertebrate Evolution Symposium, New York, NY.
- Patel, M., **A. Watanabe**, S. Hoffmann. Landmark-free approach to estimate variation in cochlear canal shape in the basal mammaliaform *Morganucodon*. NorthEast Regional Vertebrate Evolution Symposium, New York, NY.
- *M. Taylor, *T. Green, **A. Watanabe**. See-through emu: part deux. NorthEast Regional Vertebrate Evolution Symposium, New York, NY.
- *T. Lowi-Merri, **A. Watanabe**. Ecological and macroevolutionary correlates of avian brain morphology. Anatomy Connected Annual Meeting, Toronto, Canada. Postdoctoral Platform Award, Runner-up.
- *T. Lowi-Merri, **A. Watanabe**. Ecological and macroevolutionary correlates of avian brain morphology. Evolution Meeting, Montréal, Canada.
- *T.L. Green, D.I. Kay, **A. Watanabe**, P.M. Gignac. Cassowary casques are lighting rods for functional speculation: Assessing potential visual display roles via developmental anatomy and morphometric shape variation. American Ornithological Society Meeting, Estes Park, Colorado.
- *T.L. Green, **A. Watanabe**, *T.Y. Goldblatt, *J.S. Ng, *S. Chariwala, P.M. Gignac. Does micro-CT imaging support the functional role of cassowary cranial casques as vocal resonators? Anatomy Connected Annual Meeting, Toronto, Canada.
- A. Watanabe**, King, L., Z. Qi, D.L. Dufeu, S. Kawabe, L. Witmer, C. Zhou, E.J. Rayfield, M.J. Benton. Endocranial development in non-avian dinosaurs reveals an ontogenetic brain trajectory distinct from extant archosaurs. North American Paleontological Convention, Ann Arbor, MI.

- 2023 *I. Arqam, *S. Satti, *H. Siddiqui, M. Taylor, *M. Bedell, *S. Landman, *Y. Okouneva, **A. Watanabe**. Skull-brain integration in developing chickens. North East Regional Vertebrate Evolution Symposium, Boston, MA.
- *M. Shah, M. Taylor, P. Gignac, T. Green, **A. Watanabe**. The Polish crested chicken's herniated brain: What's on its mind? North East Regional Vertebrate Evolution Symposium, Boston, MA.
- M.J. Taylor, T.L. Green, **A. Watanabe**. See-Through Emu: An Odyssey in Ratite Staining. North East Regional Vertebrate Evolution Symposium, Boston, MA.
- *A. Ansari, *B. Dashore, R. Stout, **A. Watanabe**. BrainBirding: A New VR Experience for Learning About Avian Anatomy North East Regional Vertebrate Evolution Symposium, Boston, MA.
- *M.R. Forcellati, T.L. Green, L. Witmer, **A. Watanabe**. Brain shape ontogeny in ratite birds and its relevance to dinosaur brain evolution. North East Regional Vertebrate Evolution Symposium, Boston, MA.
- A. Watanabe**, *S. Landman, *S. Marshall, *M. Shah, *M. Taylor, *T. Green, P. Gignac. Polish crested chickens: A promising new model system with aberrant head anatomy. International Congress of Vertebrate Morphology Meeting, Cairns, Australia.
- Molnar, J.L., **A. Watanabe**. Revisiting old questions with new methods: interplay between embryonic motility and craniofacial development. International Congress of Vertebrate Morphology Meeting, Cairns, Australia.
- *T. Green, D.I. Kay, M.C. Granatosky, **A. Watanabe**, P. Gignac. Assessing the cassowary casque as a visual display ornament via geometric morphometric shape analysis. International Congress of Vertebrate Morphology Meeting, Cairns, Australia.
- A.R. Beyl, A. Balanoff, P. Gignac, J. Smaers, **A. Watanabe**, E. Wilberg, A. Turner. Morphological variation and ecological signals in extant crocodylomorph endocasts. International Congress of Vertebrate Morphology Meeting, Cairns, Australia.
- K. Garland, J. Abramyan, *M. Taylor, **A. Watanabe**, A.R. Evans. Tweaking the chicken beak: Investigating the shape and development of the chicken (*Gallus gallus*) beak from embryo to adult. International Congress of Vertebrate Morphology Meeting, Cairns, Australia.
- *Green, T., *T. Goldblatt, *J. Ng, *S. Chariwala, P. Gignac, **A. Watanabe**. Do the cranial casques of cassowaries function as vocal resonators? Society of Integrative and Comparative Biology Meeting, Austin, TX.
- 2022 Goswami, A., E. Noirault, E.J. Coombs, J. Clavel, A.-C. Fabre, T.J.D. Halliday, M. Churchill, A. Curtis, **A. Watanabe**, N.B. Simmons, B. Beatty, J.H. Geisler, D.L. Fox, R.N. Felice. Attenuated evolution of mammals through the Cenozoic. Society of Vertebrate Paleontology Meeting, Toronto, Canada
- Watanabe, A.**, P.M. Gignac, *T.L. Green, *M. Bedell, *S. Landman, *S.S. Marshall, *Y. Okouneva. High-density shape analysis on a new avian model to study the emergence of bizarre brain (and craniofacial) morphologies. Society of Integrative and Comparative Biology Meeting, Phoenix, AZ.
- 2021 **Watanabe, A.**, *M. Bedell, *S. Landman, *S. Marshall, *Y. Okouneva, P. Gignac. Polish crested chickens: a promising new model system with bizarrely shaped brain and skull. Experimental Biology Meeting [Virtual]
- *Green, T.L., **A. Watanabe**, P.M. Gignac. Potentially neomorphic cranial bone revealed in first micro-CT study of southern cassowary casque development. Experimental Biology Meeting [Virtual]
- Schwab, J.A., M.T. Young, Y. Herrera, L. Witmer, S. Walsh, **A. Watanabe**, A.H. Turner, S. Brusatte. Ecomorphological variation in endocranial shape in thalattosuchian crocodylomorphs. Secondly Adaptation of Tetrapods to Life in Water Conference [Virtual]

- 2020 **Watanabe A.**, *M. Bedell, R. Felice, A. Balanoff. Getting it inside your head: a unified analysis of brain and skull evolution. Society of Vertebrate Paleontology Meeting. [Virtual]
- Gignac, P., A.R. Beyl, M.E.L. Gold, J. Gray, A. Morhardt, R. Stout, D. Vazquez-Sanroman, **A. Watanabe**, M. Wilson, N.J. Kley. Extending the endocast paradigm: standard and contrast-enhanced computed tomography unite paleontological and neontological neuroimaging. Society of Vertebrate Paleontology Meeting. [Virtual]
- Turner, A.H., A.R. Beyl, S. Brusatte, P. Gignac, D. Pol, J.A. Schwab, J.B. Smaers, **A. Watanabe**, E. Wilberg, M.T. Young. Ecomorphological and allometric signatures in endocranial shape in crocodylomorphs. Society of Vertebrate Paleontology Meeting. [Virtual]
- Green, T., **A. Watanabe**, P.M. Gignac. An osteo-developmental baseline for cranial casque anatomy of Southern cassowaries better informs functional interpretations. Experimental Biology Meeting, San Diego, CA. doi: 10.1096/fasebj.2020.34.s1.06194 [canceled due to COVID]
- Beyl, A.R., J.B. Smaers, P.M. Gignac, **A. Watanabe**, E.W. Wilberg, A.H. Turner. Evolutionary regime shifts in crocodylian neuroanatomy. Society of Integrative and Comparative Biology Meeting, Austin, TX.
- *Landman, S., *Y. Okouneva, P. Gignac, **A. Watanabe**. Brain and skull interactions in Polish crested chickens as a model for hydrocephalus. Osteopathic Medicine Education Conference. [Virtual]
- 2019 **Watanabe, A.**, R.N. Felice, A.M. Balanoff, *M. Bedell, *S. Marshall. The brain's influence on skull development and evolution. Northeast Regional Society of Integrative and Comparative Biology Meeting, Chestnut Hill, MA.
- Gold, M.E.L., **A. Watanabe**. Flightless birds are not neuroanatomical analogs of non-avian dinosaurs. Northeast Regional Society of Integrative and Comparative Biology Meeting, Chestnut Hill, MA.
- Goswami, A., A.-C. Fabre, E. Noirault, R. Felice, J. Clavel, **A. Watanabe**, P. Fabre, A. Curtis, N. Simmons, D.L. Fox, M. Churchill, B.L. Beatty, J. Geisler. Integration, extinction, climate, and the evolution of the placental mammal cranium. Society of Vertebrate Paleontology Annual Meeting, Brisbane, Australia.
- Felice, R.N., **A. Watanabe**, A. Cuff, M. Hanson, D. Pol, B.S. Bhullar, M.A. Norell, L.M. Witmer, P.M. O'Connor, A. Goswami. Dinosaurs disparity differently: Contrasting patterns of cranial variation and macroevolution across dinosaurs and crocodylomorphs. Society of Vertebrate Paleontology Annual Meeting, Brisbane, Australia.
- Turner, A.H., **A. Watanabe**, A.R. Beyl, A.H. D'Amore, E. Wilberg, J.H. Smaers, P.M. Gignac. Ecomorphological and allometric signatures in endocranial shape in crocodylians. Society of Vertebrate Paleontology Annual Meeting, Brisbane, Australia.
- *Bedell, M.L., P.M. Gignac, A. Balanoff, **Watanabe, A.**. The phenotypic interplay between the brain and skull in developing chicken (*Gallus gallus*) and American alligator (*Alligator mississippiensis*). Osteopathic Medicine Education Conference, Baltimore, MD.
- Watanabe, A.**, R.N. Felice, M.L. Bedell, A.M. Balanoff. The brain as a constraint on craniofacial evolution in birds. International Congress of Vertebrate Morphology Meeting, Prague, Czech Republic.
- Goswami, A., C. Bardua, **A. Watanabe**, A.-C. Fabre, M. Randau, A. Marshall, M. Bon, E. Noirault, R.N. Felice. Assessing the macroevolutionary consequences of phenotypic integration with dense phenomic data from living and extinct tetrapods. International Congress of Vertebrate Morphology Meeting, Prague, Czech Republic.
- Felice, R.N., **A. Watanabe**, A. Cuff, M. Hanson, B.A. Bhullar, D. Pol, M.A. Norell, L.M. Witmer, P.M. O'Connor, E.J. Rayfield. Disparate integration patterns shape the evolution of cranial disparity across archosaurs. International Congress of Vertebrate Morphology Meeting, Prague, Czech Republic.

- Watanabe, A.**, P.M. Gignac, M.E.L. Gold, A.M. Balanoff, M.A. Norell. Developmental and evolutionary dynamics of the dinosaurian brain. Northeastern Regional Vertebrate Evolution Symposium, Old Westbury, NY.
- Watanabe, A.**, R.N. Felice, JA Maisano, J. Müller, A. Herrel, A. Goswami. First squamate-wide phenomic analysis reveals conserved pattern of cranial integration underlying mosaic skull shape evolution. Society of Integrated and Comparative Biology Meeting, Tampa, FL.
- Goswami, A., **A. Watanabe**, R.N. Felice, C. Bardua, A.-C. Fabre, P.D. Polly. Phenomic approaches to analysing integration in complex systems and across diverse taxa: the good, the bad, and the ugly. Society of Integrated and Comparative Biology Meeting, Tampa, FL.
- 2018 **Watanabe, A.**, P.M. Gignac. High-dimensional shape analysis of endocasts and brain reconstructions reveals the precise applicability of endocasts as a neuroanatomical correlate in archosaurs. Society of Vertebrate Paleontology, Albuquerque, NM.
- Bardua, C., R.N. Felice, **A. Watanabe**, A. Goswami. Best practices for capturing and analyzing high dimensional shape data: An amphibian case study. Society of Vertebrate Paleontology Meeting, Albuquerque, NM.
- Felice, R.N., **A. Watanabe**, A. Cuff, L.M. Witmer, M.A. Norell, E.J. Rayfield, A. Goswami. Quantifying cranial convergence, evolutionary rates, and disparity in the dinosaur skull. Society of Vertebrate Paleontology Meeting, Albuquerque, NM.
- Hoffmann, S., R. Shahid, **A. Watanabe**, P. Gill. Large sampling from early Jurassic fissure filling reveals variation in cochlear canal shape in the basal mammaliaform *Morganucodon*. Society of Vertebrate Paleontology, Albuquerque, NM.
- Watanabe, A.**, J.A. Maisano, J. Müller, A. Herrel, A. Goswami. The tempo, mode, and modularity of skull shape evolution in squamate reptiles. Northeastern Regional Vertebrate Evolution Symposium, Old Westbury, New York.
- 2017 **Watanabe, A.**, R. Felice, J.A. Maisano, J. Müller, A. Herrel, A. Goswami. High-dimensional geometric morphometric approach to understanding skull shape evolution in squamates. Paleontological Association Meeting, London, U.K.
- Watanabe, A.**, J.A. Maisano, J. Müller, A. Herrel, A. Goswami. Large-scale morphometric analysis reveals patterns of cranial shape evolution across squamates. Society of Vertebrate Paleontology Annual Meeting, Calgary, Canada.
- Vremir, M., D.E. Barta, M. Fernandez, R. Totoianu, D. Grigorescu, **A. Watanabe**, M.A. Norell. Megaloolithid eggs and nests from the Late Maastrichtian of Sebes area (Transylvanian Basin, Romania). Symposium on Dinosaur Eggs and Babies, Portugal.
- 2016 **Watanabe, A.** Modular evolution and development of the theropod brain. Society of Vertebrate Paleontology Annual Meeting, Salt Lake City, UT.
- Watanabe, A.**, P.M. Gignac, M. Norell. Mind the epidural gap: shape differences between endocast and brain through ontogeny. International Congress of Vertebrate Morphology Meeting, Washington, DC. Invited contribution to the symposium “Iodine-enhanced Soft-tissue Imaging: A Neontological Inference Tool for Vertebrate Paleontology.”
- 2015 **Watanabe, A.** How many landmarks are enough? Identifying adequate sampling of landmarks for capturing the shape of specimens. Society of Vertebrate Paleontology Annual Meeting, Dallas, TX.
- Watanabe, A.** Tree building on Noah’s Ark: the impact of poor sampling of polymorphism on phylogenetic inference. Evolution Meeting, Guarujá, Brazil.
- 2014 **Watanabe, A.** R2D3 and C3PO: A companion tool for testing the fidelity of two-dimensional geometric morphometric data in a three-dimensional world of vertebrate crania. Society of Vertebrate Paleontology Annual Meeting, Berlin, Germany.
- Watanabe, A.**, A.M. Balanoff, M.A. Norell. From *Archaeopteryx* to modern Aves: testing the impact of allometry and phylogeny in shaping bird brain evolution. Society of Integrative and Comparative Biology Meeting, Austin, TX.

- 2013 **Watanabe, A.**, M.A. Norell. Tree building from Noah's Ark: The impact of poor sampling within species on phylogenetic reconstruction. Society of Vertebrate Paleontology Annual Meeting, Los Angeles, CA. *Journal of Vertebrate Paleontology* 33 (supp. to 3):235A.
- Watanabe, A.** R2D3 and C3PO: companion tools for assessing the viability of two-versus three-dimensional morphometric data. Comparative Biology Program 2nd Year Student Symposium, New York, NY.
- Watanabe, A.**, D.E.Slice. Shape shifting through ontogeny: testing the phylogenetic signal of allometric growth in crocodylians using geometric morphometrics. New York Institute of Technology Annual Vertebrate Morphology Conference, Old Westbury, NY.
- 2012 **Watanabe, A.**, D.E. Slice. The ontogeny of cranial morphology in crocodylians and its phylogenetic significance: a geometric morphometric approach. Society of Vertebrate Paleontology Annual Meeting, Raleigh, NC. *Journal of Vertebrate Paleontology* 32(supp. to 3):191A.
- 2010 **Watanabe, A.**, P.C. Sereno, P. C. A large short-snouted dromaeosaurid (Theropoda: Maniraptora) from Inner Mongolia. Society of Vertebrate Paleontology Annual Meeting, Pittsburgh, PA. *Journal of Vertebrate Paleontology* 30(supp. to 3):184A.

Poster

*mentees

- 2025 *A. Ansari, *M. Taylor, **A. Watanabe**, M.A.C. Sepulveda. Linking Western diet with cardiovascular health: microCT imaging of perivascular adipose tissue in mice. Society of Integrative & Comparative Biology Meeting, Atlanta, GA.
- *Roenell Heerbrandt, **A. Watanabe**, *S. Landman, *A. Ansari, *M. Shah, *M.J. Taylor. Polish crested chickens: a big-headed breed as a promising model system for hydrocephalus. Society of Integrative & Comparative Biology Meeting, Atlanta, GA.
- *M. Shah, *S. Baskara, *D. Matatov, M.A.C. Sepulveda, **A. Watanabe**. Quantitative microCT analysis of murine bone: investigating menopause-related osteoporosis. Society of Integrative & Comparative Biology Meeting, Atlanta, GA.
- 2023 *I. Arqam, J. Molnar, K. Hurdle, *M. Taylor, **A. Watanabe**. The effect of muscle paralysis on skull development in chickens. NYITCOM Student Research Symposium, Old Westbury, NY.
- *R. Heerbrandt, *S. Landman, K. Hurdle, *M. Taylor, **A. Watanabe**. Could congenital hydrocephalus lead to evolution of novel brain morphologies in domestic chickens? NYITCOM Student Research Symposium, Old Westbury, NY.
- Cerio, D.G., C.J. Llera, A. Hogan, A.M. Balanoff, **A. Watanabe**, G.S. Bever. Differential growth of the adductor chamber, eye, and brain in the chick *Gallus gallus* with comments on the avialan fossil record. Anatomy Connected Meeting, Washington, DC.
- *S. Landman, *M.J. Taylor, *T.L. Green, K. Moussa, P. Gignac, M.E.L. Gold, **A. Watanabe**. Could congenital hydrocephalus lead to evolution of novel brain morphologies in domestic chickens? Society of Integrative and Comparative Biology, Austin, TX.
- *T.L. Green, P.M. Gignac, **A. Watanabe**. The real unicorns: 3D imaging of cassowary casques over ontogeny reveals a likely neomorphic cranial bone among birds. Western Interior Paleontological Society Meeting, Denver, CO.
- *C.J. Lee, J. Molnar, **A. Watanabe**, E. Dickinson, F.E. Grine, C.S. Mongle, B.K. Billings, V. Mngomezulu, C. Turcotte. Understanding the influence of colonial contact on asymmetry trends in cranial morphology among Black South Africans over the late 19th and 20th centuries. Bureau of International Osteopathic Medicine Meeting, Orlando, FL.
- 2022 *Forcellati, M.R., *T.L. Green, **A. Watanabe**. Distinct lineage-specific developmental trajectories underlie brain shape diversification in ratites (Aves: Palaeognathae). Society of Vertebrate Paleontology Meeting, Toronto, Canada. **Colbert Student Poster Prize for Best Student Poster**

- *Green, T.L., **A. Watanabe**, *J. Ng, *S. Chariwala, *T. Goldblatt, P. Gignac. 3D cranial imaging is the swan song for the cassowary casque as a vocal resonator. Society of Vertebrate Paleontology Meeting, Toronto, Canada.
- *Green, T.L., **A. Watanabe**, P. Gignac. Potentially Neomorphic Cranial Bone Revealed in First Micro-CT Study of Southern Cassowary Casque Development. Experimental Biology Meeting, Philadelphia, PA.
- *S. Landman, *M.J. Taylor, *T.L. Green, K. Moussa, P. Gignac, M.E.L. Gold, **A. Watanabe**. Could congenital hydrocephalus lead to evolution of novel brain morphologies in domestic chickens? NYITCOM Student Research Symposium, Old Westbury, NY.
- *Tharakan, S., *N. Shepherd, R.N. Felice, A. Goswami, D.J. Gower, E.L. Stanley, **A. Watanabe**. Intraspecific cranial integration in *Anolis carolinensis* and *Natrix helvetica* mirrors squamate-wide macroevolutionary pattern. NYITCOM Student Research Symposium, Old Westbury, NY.
- *Green, T.L., P.M. Gignac, **A. Watanabe**. Cassowaries are unicorns: Ontogenetic micro-CT analyses of *Casuaris* casques reveal a likely neomorphic cranial bone. Society of Integrative and Comparative Biology, Phoenix, AZ.
- *Forcellati, M., *T. Green, **A. Watanabe**. Distinct developmental trajectories underlie brain shape development in ratites (Aves: Palaeognathae). Society of Integrative and Comparative Biology Meeting, Phoenix, AZ.
- *S. Tharakan, *N. Shepherd, R.N. Felice, A. Goswami, D.J. Gower, E.L. Stanley, **A. Watanabe**. Intraspecific cranial integration in *Anolis carolinensis* and *Natrix helvetica* mirrors squamate-wide macroevolutionary pattern. Society of Integrative and Comparative Biology Meeting, Phoenix, AZ. **David and Marvalee Wake Award for Best Student Presentation**
- 2021 *Forcellati, M., *T. Green, **A. Watanabe**. Distinct developmental trajectories underlie unique brain morphology in large ratites (Aves: Palaeognathae). Columbia University Undergraduate Research Symposium.
- 2020 *Landman, S., *Y. Okouneva, P. Gignac, **A. Watanabe**. Brain and skull interactions in Polish crested chickens as a model for hydrocephalus. NYIT Academic Physican Scientist Association Research Poster Symposium. [Virtual]
- 2019 *Bedell, M.L., P.M. Gignac, A. Balanoff, **A. Watanabe**. How does the brain influence skull development in chickens and alligators? NYIT Summer Research Program Poster Symposium, Old Westbury, NY.
- *Marshall, S., P.M. Gignac, A.M. Balanoff, **A. Watanabe**. Polish Crested chickens: Model for the evolution of big brains? NYIT Summer Research Program Poster Symposium, Old Westbury, NY.
- 2018 Hogan, A., **A. Watanabe**, A.M. Balanoff, G.S. Bever. Differential growth in the telencephalon of developing chick—the olfactory bulb in ontogeny and phylogeny. Society of Vertebrate Paleontology Meeting, Albuquerque, NM.
- Zaransky, S., M. Gibilisco, **A. Watanabe**, S. Hoffmann. Postnatal ontogeny of inner ear morphology in chicken and alligator. Society of Integrative and Comparative Biology Meeting, San Francisco, CA.
- 2011 **Watanabe, A.**, G.M. Erickson. Arctic dinosaur histology: osteological growth in an arcotometatarsalian theropod from the late Cretaceous Prince Creek Formation of Alaska. South-eastern Association of Vertebrate Paleontologists Annual Meeting, Gainesville, FL.
- Watanabe, A.** Bone histology of an Alaskan ornithomimosaur: implications for polar dinosaurian physiology. Society of Vertebrate Paleontology Annual Meeting, Las Vegas, NV. *Journal of Vertebrate Paleontology* 31(supp. to 3):212A.

2009	Watanabe, A. , P.C. Sereno. The forelimb of a new Tyrannosauridae (Dinosauria: Theropoda) from China and its implications for forelimb evolution in tyrannosaurids. Society of Vertebrate Paleontology Annual Meeting, Bristol, UK. <i>Journal of Vertebrate Paleontology</i> 29(supp. to 3):200A.
2008	Watanabe, A. <i>Stegosaurus</i> : hands, feet, and footprints. Society of Vertebrate Paleontology Annual Meeting, Cleveland, OH. <i>Journal of Vertebrate Paleontology</i> 28(supp. to 3):158A.

Teaching

Courses

2018–	Foundations of Osteopathic Medicine–Human Gross Anatomy (Co-Instructor) New York Institute of Technology College of Osteopathic Medicine [Taught Annually]
2022, 2023	Form and Function (Embryology module Guest Instructor) New York Institute of Technology College of Osteopathic Medicine
2015–2023	Geometric Morphometrics (Co-Instructor) American Museum of Natural History [Taught Alternate Years]
2022	Vertebrate Paleontology (Co-Instructor) American Museum of Natural History
2020	Practicum in Clinically Oriented Anatomy (Course Director) New York Institute of Technology College of Osteopathic Medicine
2013	Systematics & Biogeography (Lab Instructor) American Museum of Natural History
2011	Comparative Vertebrate Anatomy (Lab Instructor) Florida State University Human Anatomy & Physiology I (Lab Instructor) Florida State University
2010	Vertebrate Structure & Function (Lab Instructor) University of Chicago Dinosaur Science (Teaching Assistant) University of Chicago

Mentorship

Postdocs: Paul Byrne (NYIT, 2025–), Todd Green (NYIT, 2020–2023), Talia Lowi-Merri (NYIT, 2023–2025)
Medical Students: Abdullah Ansari (NYIT, 2023–2025), Izza Arqam (NYIT, 2020–2024), Mariel Bedell (NYIT, 2018–2019), Scott Landman (NYIT, 2019–2023), Sylvia Marshall (NYIT, 2018–2022), Chun Maung (NYIT, 2018–2019), Alexis Morin (NYIT, 2018–2019), Yekaterina Okouneva (NYIT, 2019–2020), Marichelle Pita (NYIT, 2019–2020), Mohit Shah (NYIT, 2023–2025), Linnie Yang (NYIT, 2022–2024)
M.Res. Student: Noah Shepherd (University College London, 2017)
Undergraduates: Abdullah Ansari (NYIT, 2022–2023), Brian D’Amore (NYIT, 2022–2023), Meghan Forcellati (Columbia University, 2021–2023, Colbert Prize for Best Student Poster at Society of Vertebrate Paleontology Meeting 2022), Eashan Jindal (NYIT, 2024–), Asweel Mehaboob (NYIT, 2022–), Mahir Rahman (NYIT, 2022–2025), Siem Satti (NYIT, 2020–2024), Mohit Shah (NYIT, 2022–2023), Hamza Siddiqui (NYIT, 2021–2023), Shebin Tharakan (NYIT, 2020–2022, David and Marvalee Wake Award for Best Student Presentation at Society of Integrative and Comparative Biology Meeting 2022)
High School Students: Isabelle Brenes (Saint Francis Preparatory School, 2014–2016, NYC Science & Engineering Fair Finalist (Second Place in Division)), Anthony D’Amore (Smithtown High School, 2018, Long Island Science and Engineering Fair First Prize in Animal Sciences; Regeneron Science Talent Search Semi-Finalist)

Workshops

2022	Invited Speaker Integrative Organismal Modeling of Movement (IOMM) Workshop on “Morphological Methods in Evolutionary Biomechanics” [2 Virtual Sessions]
2020	Invited Panelist Academic Jobs Roundtable, Society of Vertebrate Paleontology Meeting [Virtual]
2016	TNT Phylogenetic Workshop (Co-Instructor) American Museum of Natural History
2015	geomorph R Package Workshop Society of Vertebrate Paleontology Meeting, Dallas, TX
2014	NSF Dissertation Improvement Grant Panel American Museum of Natural History
2011	NSF Graduate Research Fellowship Panel Florida State University

Service

Professional

	Departmental Committees: Anatomy Ph.D. Program Curriculum Committee (Chair 2021–2022), Seminar Series Coordinator (2018–2019), Social Media Coordinator (2018–2020), Anatomy Postdoctoral Teaching Fellow Search Committee (2020), Faculty Search Committee Member (2019), Administration Assistant Search Committee (2019), Technician Search (Chair 2019), Virtual Lab Curriculum Committee (Chair 2020), Radiology Curriculum Committee (2020), Education Technology Committee (2020) Institutional Committees: Biosafety Committee (2018), NYIT Academic Senate (2023–2025), D.O.-Ph.D. Admissions Committee (2018–2020), NYITCOM Academic Medicine Scholar M.Sc. Program Admissions Committees (2018–2019), NYITCOM Academic Medicine Scholar M.Sc. Program Curriculum Committee (2020), NYITCOM Facilities Committee (2018–), NYITCOM Access & Faculty Engagement (formerly Diversity) Committee (2021–, Interim Chair 2022, Chair 2023), Anatomy Visualization & Appearances Committee (2023–), NYITCOM Faculty Onboarding Committee (2018–2021), NYITCOM Faculty Senate (Senator 2019–2023), NYITCOM Faculty Senate By-Laws Committee (2019–2021), NYITCOM Research Advisory Committee (2018–2025), NYITCOM Summer Research Program Review Panel (2020), NYITCOM Sustainability Committee Chair, 2019–2024) Peer Reviews: <i>Acta Zoologica</i>, <i>American Journal of Physical Anthropology</i>, <i>American Naturalist</i>, <i>Anatomical Record</i>, <i>Annals of New York Academy of Sciences</i>, <i>Biology Letters</i>, <i>Brain Science</i>, <i>Data in Brief</i>, <i>Developmental Dynamics</i>, <i>Ecology & Evolution</i>, <i>Evolution</i>, <i>Evolutionary Biology</i>, <i>Evolutionary Ecology</i>, <i>GeoBio</i>, <i>Integrative and Comparative Biology</i>, <i>Journal of Anatomy</i>, <i>Journal of Evolutionary Biology</i>, <i>Journal of Morphology</i>, <i>Palaeoworld</i>, <i>Paleobiology</i>, <i>PeerJ</i>, <i>PLoS ONE</i>, <i>Proceedings of the Royal Society of London B</i>, <i>Methods in Ecology and Evolution</i>, <i>Nature Ecology & Evolution</i>, <i>Nature Communications</i>, <i>Science Advances</i>, <i>Scientific Reports</i>, <i>Systematic Biology</i>, <i>Zoological Journal of the Linnean Society</i>, <i>Zoological Science</i>
2024	Co-Organizer NorthEast Regional Vertebrate Evolution Symposium, New York, NY (co-organizer: Talia Lowi-Merri) Dissertation Evaluator for Melody Young, NYITCOM
2023	Lead Organizer Conference Symposium: “Domestication and feralization: modern techniques on evolutionary exemplars”, International Congress of Vertebrate Morphology, Cairns, Australia (co-organizers: Ana Balcarcel, Emma Sherratt) Invited Grant Panel Review Member National Science Foundation External Dissertation Committee Member for Aneila Hogan, Johns Hopkins University
2022	Invited Speaker & Instructor, NSF-funded Integrative Organismal Modeling of Movement (IOMM) Workshop in “Morphological Methods in Evolutionary Biomechanics”, UC Irvine [virtual] Invited Grant Panel Review Member National Science Foundation

2018	Lead Organizer Conference Symposium: “Building A Phenomic Universe: The Collection, Management, and Applications of Digital Morphological Data”, Society of Vertebrate Paleontology Meeting, Albuquerque, NM (co-organizer: Jen Bright)
2018	Committee Member Society of Vertebrate Paleontology Colbert Poster Prize Committee
2016	Guest Lecturer Dinosaur Ecosystems MOOC hosted by Hong Kong University
2015	Lead Organizer Conference Symposium: “The Shape of Things to Come: Geometric Morphometrics in Vertebrate Paleontology”, Society of Vertebrate Paleontology Meeting, Dallas, TX (co-organizers: Marc Jones, Emma Sherratt)

Outreach

2025	Principal Investigator NSF Research Experience for Teachers, AMNH & NYIT, NY Invited Speaker Creature Feature: The Science of Monster Movies & Community Filmmaking, Museum of the Moving Image, NY
2024	Instructor Hands-On Embryology Lab Activity for STEP High School Students, NYIT, NY Invited Speaker “What Is It Like to be a Paleontologist?”, Stamford Museum & Nature Center, CT
2023	Invited Speaker Science Education Program for Students, Mongolia [Virtual] Instructor Hands-On Embryology Lab Activity for STEP High School Students, NYIT, NY
2022	Scientific Consultant “Dinosaurs Among Us” Panel Exhibit, American Museum of Natural History, NY Scientific Consultant Richard Gilder Center Collections Core Exhibit, American Museum of Natural History, NY Invited Speaker “T. rex: The Ultimate Predator” Exhibit Event, Peoria Museum, IL
2021	Invited Speaker “The World’s Largest Dinosaurs” Exhibit Event, Mayborn Museum, TX Invited Speaker “T. rex: The Ultimate Predator” Exhibit Event, Peoria Museum, IL [Virtual]
2018	Featured Scientist “Space vs. Dinos” YouTube series (collaborator: AMNH) Featured Scientist Video: “On the Myths and Truths of Jurassic Park” (NYIT Media) Invited Speaker “How a Paleontologist Sees Jurassic Park,” Science on Tap, NY
2017	Invited Presenter Science Unleashed event, Natural History Museum London, UK
2013–2015	Invited Presenter NYU Science, Health, and Education & Environmental Reporting Graduate Program Workshop, AMNH, NY
2014, 2015	Invited Speaker Adventures in Science Workshop (Grades 2-4), AMNH, NY
2015	Featured Scientist “Shelf Life” Episode: “Six Extinctions in Six Minutes” Co-Developer & Speaker AMNH “Hack the Dinos” Hackathon, AMNH, NY Featured Scientist, Contributor “Dinosaurs Among Us” exhibit, AMNH, NY Invited Speaker “Science and Scientists at the AMNH” program, AMNH, NY Invited Speaker “Meet the Scientist” program, AMNH, NY Invited Scientist Saint Ann’s School Science program (Grades 6-7), NY Invited Speaker Greenwich Series at The Bitter End, NY.
2014	Invited Participant DARPA Art & Science Workshop, Washington, D.C. Invited Speaker New York City Science & Engineering Fair Finals, NY Invited Scientist Museum Identification Day, AMNH, NY
2013	Invited Speaker TEDxYouth, NY

	Google Glass beta-tester “Google Glass with Aki Watanabe” YouTube series. Press Coverage: io9 , Smithsonian Magazine
	Co-Developer & Co-Instructor “Capturing Dinosaurs” 3D scanning & printing summer course (Grades 9-12), AMNH, New York, NY. Press Coverage: YouTube video , Gizmodo
	Judge Urban Barcoding Project Poster Session (Grades 9-12), NY
2011	Scientist Guide SciGirls Camp Fossil Collecting Field Trip (Grade 9), FL
	Judge Tri-beta Biology Undergraduate Society Poster Session, Florida State University, FL
	Judge Capital Regional Science & Engineering Fair, FL
2009	Invited Speaker Project Exploration, IL

Fieldwork

2024	AMNH Morrison Formation Expedition, Central Wyoming
2021	Cassowary Conservation Project, Fort Pierce, FL
2018	Joint NHMUK-CONICET Expedition, Salta Province, Argentina
2014	Joint Cluj-Bucharest-AMNH Expedition, Sebeş, Romania
2013	Joint AMNH-Mongolian Academy of Sciences Expedition, Mongolia
2011	Bite Force Measurements, St. Augustine Alligator Farm, FL
2010	Herpetological Fieldwork, Apalachicola Region, FL
	Plant & Marine Life Survey, St. Marks Wildlife Refuge, FL
	University of Chicago paleontological excavation, Shell, WY
2009	Project Exploration paleontological fieldwork, Wibaux, MT
2008	University of Chicago paleontological excavation, Shell, WY

Membership

Professional

2021–Current	J.B. Johnston Club for Evolutionary Neuroscience
2020–Current	Society for Developmental Biology
2018–Current	American Association for Anatomy
2011–Current	Society of Integrative and Comparative Biology
2008–Current	Society of Vertebrate Paleontology
2010–2016	Willi Hennig Society

Miscellaneous

2012–Current	Violin New Amsterdam Symphony Orchestra, New York, NY
2010–2012	Assistant Concertmaster Big Bend Community Orchestra, Tallahassee, FL
2005–2010	Violin I University of Chicago Symphony Orchestra, Chicago, IL

Musical Compositions

ca. 2007	Fantasie for Solo Piano in G minor, Op. 1
ca. 2007	A Response to <i>Piosenka Ludowa</i> by Bartok for Solo Piano, Op. 2
2009	Variation on a Theme by Brahms for Solo Piano, Op. 3
2009	<i>Bookends</i> : A String Quartet in 1 Movement, Op. 4

2011	Lullaby No. 1 for Solo Piano, Op. 5
2024	Lullaby No. 2 for Solo Piano, Op. 6