Xiaoni Xu

Curriculum Vitae

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EDUCATION

2026 M.S., Biostatistics, Columbia University (prospective)
2023 B.A., Biology, University of Chicago

RESEARCH INTERESTS

Causal Mediation Analysis; Causal Inference, Functional Data Analysis; Statistical Computing; Statistical Modeling

RELEVANT COURSEWORK

2025 Statistical Inference
Biostatistical Methods II
Topics in Advanced Statistical Computing
2024 Principles of Epidemiology
Biostatistical Methods I
Probability
2023 Linear Algebra

RESEARCH EXPERIENCE

2025 *Student researcher, Columbia University Valeri Lab*
Implementing causal mediation analysis for time-varying exposures and mediators and writing commands for R package CMAverse, with applications to survival and longitudinal data from the Strong Heart Study

2024 *Student researcher, Columbia University Ogden Lab*
Exploring functional data analysis on SS and IMF mitochondrial shape data of sedentary and running mice and calculating distance matrix using R packages MHD and fdasrvf

2020-23 *Undergraduate researcher, University of Chicago Slater Lab*
Conducting projects on statistical analyses of 3D scanning of cranial bones of shorebirds and designing modularity hypothesis of cranial bones based on phylogenetic tree and bird anatomy

2023 *Scientific affiliate, Field Museum*
Preparing and analyzing DNA data from blood samples of birds and reading and analyzing genetic data using Geneious to conduct molecular sexing

2022 *Undergraduate researcher, Field Museum*
Describing 2D and 3D shapes of Alcid eggs using computer application developed by the lab group and banding and monitoring breeding population of Purple Martins on the Chicago lakefront

2020-21 *Undergraduate researcher, Field Museum*
Conducting projects involving statistical analyses on morphological data of subspecies of Willard's Sooty Boubous using R markdown and physiological data of octopoids

2018 *Researcher, Secondary Student Training Program, University of Iowa*
Designing and conducting a research project on examining patterns of post-translational modifications (H4 tail acetylation) with *E. coli* cultures using NMR spectroscopy

GRANTS AND FELLOWSHIPS

University of Chicago

2023 Jeff Metcalf Fellowship Grant for Graduating Students ($5000)

2022 Ecology and Evolution Undergraduate Research Fellowship ($5000)

2021 Ecology and Evolution Undergraduate Research Fellowship ($5000)

PRESENTATIONS AND PUBLICATIONS

Conference Presentations

2021 "3D morphometrics of shorebird skulls show a strong signal of semi-independent evolution of beak and braincase." Annual meeting of the American Ornithological Society. August 2021.

Publications

2023 **Xu, X**., Natale, R. (2024). Correlated evolution of beak and braincase morphology is present only in select bird clades. Journal of Morphology, 285, e21703. https://doi.org/10.1002/jmor.21703

VOLUNTEERING EXPERIENCE

2025 *Volunteer, 2025 American Causal Inference Conference*
As member of the Society for Causal Inference, helping registration for other members at the conference, providing technical help during presentation sessions, directing members to various conference locations during the 4-day conference period

2021-23 *Regional Reviewer for China, eBird, Cornell Lab or Ornithology*

Reviewing checklists of bird observations from users of eBird in China, completing the frequency, distribution, and population database of bird species in China, and responding to rare observations and communicating in citizen science

2021-23 *Volunteer, Museum of Science and Industry*
Leading bird walks at Jackson Park, Chicago for visitors, identifying and educating participants on the species seen during events, rallying bird counts, and submitting records to both the museum and eBird, a public citizen science database

2022 *Student Volunteer and Participant, American Ornithological Society*
Providing technical support for poster sessions and symposia during the annual meeting in Puerto Rico and providing help with event registration and speaker check-ins

LANGUAGES

English	Native Equivalent
Mandarin	Native
Japanese	Advanced
Spanish	Intermediate
French	Basic

REFERENCES

Dr. Todd Ogden
Associate Professor
Columbia University
212-342-1247
to166@columbia.edu

Dr. John Bates
Curator and Section Head,
Life Sciences
Field Museum
312-665-7730
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Dr. Graham Slater
Associate Professor
University of Chicago
773-702-0429
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