

Anish Ajay Kirtane

dna.anish@gmail.com

X: @DNAsaur_

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Professional Experience

INSTITUTE OF INTEGRATIVE BIOLOGY, DEPARTMENT OF ENVIRONMENTAL SYSTEMS SCIENCE,
ETH ZURICH

(Post doc, Jan 2025 – present)

Design novel eDNA capture techniques for the detection of hemlock woolly adelgid biocontrol predators

WHITMORE LAB, DEPT OF NATURAL RESOURCES, CORNELL UNIVERSITY, USA

(Research Technician, February 2020 – 2021)

Design novel eDNA capture techniques for the detection of hemlock woolly adelgid biocontrol predators

GREEN LAB, SUNY-ESF, DEPT. OF ENVIRONMENT AND FOREST BIOLOGY, SYRACUSE, USA

(Research Aide, January 2016 – May 2018)

Microbial Activity in Methylation of Mercury in the Meromictic Fayetteville Green Lake, NY
Microbial Source Tracking in Onondaga Lake, NY.

TODOROVA LAB, SYRACUSE UNIVERSITY, DEPT. OF ENV. AND CIVIL ENGINEERING

(Research Aide, January 2017 – July 2017)

Analyzing methyl-mercury concentration (ng/L) and total mercury concentrations (ppt) from water samples.

PUGMARKS ECO-TOURS, INDIA *(Safari Guide & Wildlife educator, 2010 – 2015).*

Education

ETH ZURICH, SWITZERLAND (PHD - 2021 - CURRENT)

Institute of Biogeochemistry and Pollutant Dynamics

Cycling of Environmental DNA

UNIVERSITY AT BUFFALO, SUNY (MSc) Environmental and Water Resources

Engineering (2018 – 2019)

Development of eDNA passive sampling
shedding and degradation rates of marine fish eDNA

SUNY- COLLEGE OF ENVIRONMENTAL SCIENCE AND FORESTRY (B.Sc) (With Honors) (2014 – 2017)

Major- Environmental Biology; Minor- Biotechnology

eDNA methods to detect bog turtles

UWC MAHINDRA COLLEGE (2012- 2014)

(International Baccalaureate)

Extended essay “Ideal Mitigation Measures for Human-Leopard Conflict in Bhimashankar Wildlife Sanctuary, India”

Publications

Kirtane, Anish, Leif Howard, Caitlin E. Beaver, Margaret E. Hunter, Gordon Luikart, and Kristy Deiner. "How, What, and Where You Sample Environmental DNA Affects Diversity Estimates and Species Detection." *Environmental DNA* 6, no. 6 (2024): e70042.

URycki, Dawn R., **Anish A. Kirtane**, Rachel Aronoff, Colton C. Avila, Rosetta C. Blackman, Luca Carraro, Olivier Evrard et al. "A new flow path: eDNA connecting hydrology and biology." *Wiley Interdisciplinary Reviews: Water* (2024): e1749. **(First co-authored)**

Kirtane, Anish, and Kristy Deiner. "Improving the recovery for dissolved eDNA state: A comparative analysis of isopropanol precipitation, magnetic bead extraction, and centrifugal dialysis." *Environmental DNA* 6.3 (2024): e572.

Müller, Nicolas D., **Anish Kirtane**, Roman B. Schefer, and Denise M. Mitrano. "eDNA Adsorption onto Microplastics: Impacts of Water Chemistry and Polymer Physiochemical Properties." *Environmental Science & Technology* 58, no. 17 (2024): 7588-7599.

Kirtane, Anish, Hannah Kleyer, and Kristy Deiner. "Sorting states of environmental DNA: Effects of isolation method and water matrix on the recovery of membrane-bound, dissolved, and adsorbed states of eDNA." *Environmental DNA* (2023).

Kirtane, Anish, Nicholas J. Dietschler, Tonya D. Bittner, Marshall Bigler Lefebvre, Sabrina Celis, Katharine O'Connor, Nathan Havill, and Mark C. Whitmore. "Sensitive environmental DNA (eDNA) methods to detect hemlock woolly adelgid and its biological control predators *Leucotaraxis* silver flies and a *Laricobius* beetle." *Environmental DNA* 4, no. 5 (2022): 1136-1149.

Kirtane, Anish, Daniel Wieczorek, Thomas Noji, Liza Baskin, Claire Ober, Riley Plosica, Ashley Chenoweth, Katie Lynch, and Lauren Sassoubre. "Quantification of environmental DNA (eDNA) shedding and decay rates for three commercially harvested fish species and comparison between eDNA detection and trawl catches." *Environmental DNA* 3, no. 6 (2021): 1142-1155.

Kirtane, Anish, John D. Atkinson, and Lauren Sassoubre. "Design and validation of passive environmental DNA samplers using granular activated carbon and montmorillonite clay." *Environmental Science & Technology* 54.19 (2020): 11961-11970.

Kirtane, Anish A., Maxwell L. Wilder, and Hyatt C. Green. "Development and validation of rapid environmental DNA (eDNA) detection methods for bog turtle (*Glyptemys muhlenbergii*)." *PloS one* 14.11 (2019).

Kirtane, Anish. 2016. Unusual diet in *Sphaerotheca dobsonii* (Boulenger, 1882). *Sauria* 38 (1): 60-62

Thite, Vedant, and **Anish Kirtane**. 2013. First note on polychromatism in *Uropeltis bicatenata* (Gunter, 1864). *Sauria* 35 (4): 59-62
