

Get to Know NYCPM Faculty:
Joy S. Reidenberg, PhD
Adjunct Professor of Pre-Clinical Sciences, Director of Anatomy



Dr. Joy S. Reidenberg is an educator and a biomedical research scientist who is Adjunct Professor Pre-Clinical Sciences and course director of General Anatomy for first-year students at NYCPM; she oversees the use of cadavers with Eileen Chusid, PhD, who is Associate Professor and Dean of Pre-Clinical Sciences, and Director of Institutional Research (Dr. Reidenberg oversees use of cadavers for general anatomy which are then used for LEAN; Dr. Chusid is the New York State license holder for all cadavers used at NYCPM, including feet used for general surgery and orthopedic courses). Dr. Reidenberg also is Professor of Medical Education at Icahn School of Medicine at Mount Sinai's Center for Anatomy and Functional Morphology.

She earned her B.A. from Cornell University in Animal Physiology and Anatomy, with a minor in art history, and her M.Phil. and her Ph.D. in Anatomy from the Mount Sinai Graduate Program in Biomedical Sciences (now affiliated with the Icahn School of Medicine at Mount Sinai).

Though she does not teach lower-extremity anatomy at NYCPM, Dr. Reidenberg is a big admirer of human foot anatomy, which she considers "amazing." Our unique foot anatomy allows standing without expending energy, she says, as well as sustained bipedal walking at very low energy cost – the only mammals who can do this. Part of the anatomy that helps humans walk and stand is the structure of ligaments in the arch; she points out that people with flat feet can't stand for long periods.

Dr. Reidenberg's fascination with animal morphologies and how the animals "work" and move started in childhood. Her pre-college conflict between art and marine biology and animals led her to apply to Cornell, where both art and sciences were taught, and where a key anatomy professor mentored her and introduced her to research science. Her doctoral dissertation on the influence of skull base shape on the configuration of the respiratory tract in a range of animals led to her interest in whales, dolphins, and porpoises (i.e., they have no necks, they have noses on top of their skulls, and their voice boxes are placed asymmetrically in their noses).

Her fascination with whale anatomy has turned into expertise. Dr. Reidenberg says these animals are unique -- "they are carrying around the baggage of their evolutionary history as land animals" -- and she is in

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demand as a featured guest on television nature programs in the United Kingdom (most recently *Inside Nature's Giants*, and *Sex in the Wild*) and in the US (on January 8th, she will be featured on *Humpback Whales: A Detective Story*, on PBS at 8pm).

Dr. Reidenberg is interested in how these animals have evolved adaptations to solve problems we consider a survival challenge in humans. She hopes to learn from nature and develop preventive/protective technologies or new medical treatments for human injuries and diseases based upon closely paralleling these adaptations.

Dr. Reidenberg is passionate about teaching and conveys her enthusiasm to her students both here at NYCPM and at Icahn School of Medicine at Mount Sinai. She has won a number of awards, including the Basmajian Award, given by the American Association of Anatomists, for her excellence in both teaching and research, and a BAFTA (British Academy of Film and Television Arts) Award (like an Emmy and an Oscar rolled into one) for her work on *Inside Nature's Giants*.