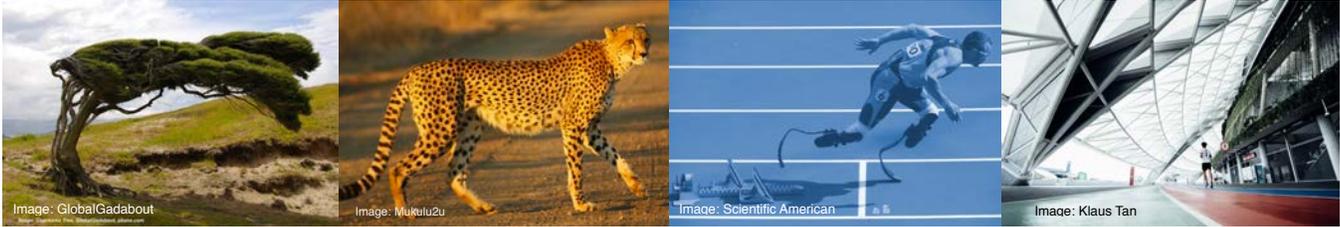


# Evolving Forms Of Motion

Instructor: Tom Hahn



**Inquiry:** The environment is in constant motion, over an immense range of time scales – from the momentary of a breeze, to the eons of tectonics, from the bursting of bamboo to the creeping of lichen, from the frenetic beat of a hummingbird’s wings, to the tentative plodding of a sloth. We will inquire into how motion in nature relates to morphogenesis in nature... From the geologic, through flora, to fauna, and humans. Humans are also in constant motion within their environment – walking, running, jumping, climbing – as individuals moving among spaces, as groups gathering and dispersing, and as populations, migrating within a changing climate. Human motion is often accomplished with aid – from something as minimal as shoes, all the way to complex limb mechanisms. Each product and device must be conceived, designed, produced, tested, and refined, in concert with a full range of human physiologies and abilities, whether occurring from birth, or modified by incident, or illness. And while each of these movements and the responses to them have their pragmatic rationale within their ecologies, each also creates poetics of figural, formal expressions.

From our base of knowledge about motion and form in response to ecologies, we will explore architectural designs that delve into the following questions... How can a keen understanding of the motion and flows of an ecology inform an architecture? In what ways can the awareness and understanding of individual and collective human motion and the research and design into it arise as architectural form and narrative. How can these both synergize toward higher orders of architectural form and space, both its expression *and* efficacy?

**Project:** The Center for the Study of Human Locomotion will ostensibly be a home for the UO programs in human physiology focused on human locomotion (kinesiology, anatomy, etc.), in conjunction with the UO programs in product design focused on human locomotion (shoes, apparel, ambulatory mechanisms, etc.). This core portion of the building program will include research labs, movement analysis studios, product design studios, prototyping fabrication shops, classrooms, offices, along with communal breakout and study spaces. The project will also have an ancillary program chosen from several options (or proposed and approved individually) that might include: a home for the Oregon Museum of Running and National Running Hall of Fame; or a running/walking community center and product incubator spaces; or an indoor track and ambulatory terrain simulator.

Sited here in Eugene, the project will be at the nexus of the new Hayward Field (coming site of the 2020 Olympic Trials and 2021 World Track & Field Championships), Pre’s Trail, Pre’s Rock, and the Eugene Marathon.

**Format:** First term: We will begin with parallel studies of the flows and forms of nature, and of human motion. We will follow with study of the physiology research and product design that aid human movement, along with studying ecological flows of our site. From that base, we will explore individual conceptual paradigms and massing for the project. This will lead to development of initial site, forms, spaces, construction, and systems, in response to external and internal forces of people, place and program, with designs intended to also capture each student’s unique statement about the study of, provision for, and celebration of human locomotion.

Second term: Through the second term, we will iteratively refine and enrich the depth and detail of the initial design, toward a comprehensive, holistically integrated solution that incorporates a full spectrum of overall ecological response at site and building scale, with significant detail to construction, structure, building systems, and with consideration of key building code and cost of construction aspects. Final documentation will include models, digital renderings, structural and systems diagrams, partial construction sections and details, as well as code, cost and environmental response narrative.