

PROTECTIVE ATMOSPHERES & ENTOMOLOGICAL HAPPENINGS

Healthy Housing Prototypes for Hot-Humid Climates



Tanzanian School, Photo by Robin Hayes, ArchDaily

Course Announcement ARCH 7101, Fall 2021

Instructor: Liz McCormick AIA, CPHC, LEED AP
Contact: lizmccormick@uncc.edu
Storrs 243, 704-687-0111

Collaborators: Ifakara Health Institute, Michael Singer Studio, King's College Department of Social Science, Health and Medicine, Institute for Science, Innovation and Society.

Mosquitos are the most dangerous animal on earth.

-Frederos Okumu, Ifakara Health Institute ([Ted Talk](#))

More than 80% of the world is at risk from at least one vector-borne disease, and Malaria is a leading cause of death in the developing world. Additionally, climate change impacts will dramatically increase vulnerabilities associated with mosquito-borne diseases, with rates of transmission expected to be highest in rapidly developing regions, particularly those currently supporting largely rural populations. A tremendous need exists for the design of low-cost domiciles that are culturally responsive, exhibit a high level of functionality from the standpoint of disease prevention, and that offer thermal comfort without reliance on energy-intensive mechanical interventions. Recent efforts to make a house more “protective” often lead to dwellings that have reduced air transmission and provide substandard air quality and interior comfort. In response, this course links human comfort and mosquito protection as part of a singular design proposition, dispelling the notion that protective, low-energy and comfortable buildings must be sealed, airtight enclosures that isolate the occupant from the outdoors and much of the social life of the community that occurs there.

Through interdisciplinary research, design and fabrication processes, students will explore ecological, cultural, and thermodynamic issues that frame modern housing typologies in rural Tanzania. Particular emphasis will be paid to sophisticated and thoughtful applications of conventional construction techniques and affordable, low-tech building materials. Select students will have the opportunity to participate in the “Entomological Happenings” housing prototype charette facilitated by the Science Division of the Ifakara Health Institute of Tanzania in the Spring of 2022.