ARCH 484/584 Spring 2022
ADAPTIVE RAPID SHELTER FORCIBLY DISPLACED PEOPLE
CRN 33848 / 33847 - Monday Wednesday Friday 1:00-4:30pm in 275 Lawrence Hall
Instructor: Visiting Associate Professor Earl Mark, emark@uoregon.edu

“I’ll be there... I’ll be in the way guys yell when they’re mad an’ I’ll be in the way kids laugh when they’re hungry an’ they know supper’s ready. An’ when our folks eat the stuff they raise an’ live in the houses they build—why, I’ll be there.”
— John Steinbeck, The Grapes of Wrath

OVERVIEW
When forced from home, traumatized, separated from loved ones, in severe need of food, medical care, sanitation, protection from the weather and safety, time may be critical. The speed of the response may save lives. It seems self-evident that a flexible rapidly deployed shelter with a secure envelope is a key step to ensuring your survival. Yet, settlements that spring up in urgent conditions may expand in scale and last years longer than expected. The initial footprint may become obsolete with respect to protecting the health, agency, food supply, religious practices, cultural activities, and sense of hope needed. Our studio design methods begin with an exploration of light-weight rigid frame and of tension membrane fabric collapsible structures that are rapidly deployable, adaptive to variable conditions, and can be transformed by residents over time into settlements. The studio will gain the benefit of active research supported by a UO Global Justice grant.

UNHCR DEFINED COMMUNITY
We introduce methods of physical modeling, computer modeling, field sketching, and design processes for an individually selected narrative of a forcibly displaced people. By the mid-term we will expand our focus to 16 household units for a total of 80 residents: a particular number of units and size population identified as a “Community” by the United Nations High Commissioner on Refugees (UNHCR). A field trip sketching exercise at two state parks on the Oregon Coast will occur on Friday April 1st. This includes a walk with an environmental scientist Park Ranger and a site sketching and observation exercise to learn to read the ecosystem and influences of climate.

Earl Mark is tenured professor at the University of Virginia. He taught a similar studio at UO in 2019. Questions may be sent to emark@uoregon.edu. For more detail see the studio web site at https://blogs.uoregon.edu/adaptiverapidshelterforciblydisplacedpeople/.
RESEARCH GRANT LINK

The studio is the final stage of a Savage Endowment for International Peace and Justice funded effort awarded by the University of Oregon, Global Justice Program. The co-PIs (principal investigators) of the research team will meet in Eugene during the first week of the spring term and help facilitate a field sketching exercise at the two state parks on the Oregon Coast. The co-PIs bring perspectives from their homes the US, Europe, and The Middle East. Advisors to the team have brought in perspectives from other places with significant problems of forcible displacement. The accumulated knowledge of these case studies will help to guide the studio.

METHODS

Hands on workshops will be in part based on wooden boatbuilding and sailmaking traditions. Studio techniques will also engage tensioning fabric models and learning about high strength tension membrane fabric materials. We will also investigate connection joints with up to six degrees of freedom to permit unfolding and retraction of the structures. Specific techniques of computer simulation, geometrical modeling, digital terrain modeling, sewing and CNC fabrication will be taught if and as needed.

PICKING A NARRATIVE

Readings and discussions within the studio include profiles of forcibly displaced peoples, their varied circumstances, cultures, and particular needs as described by humanitarian aid organizations and health care providers and as informed by the findings of the Savage Endowment research team. Each studio participant will independently select, research, and respond to the discrete narrative of a particular group of forcibly displaced people.

FABRICATORS

The Eugene area is home to some exceptionally innovative and knowledgeable fabricators of tension membrane fabric structures and sailmakers. It’s anticipated that the studio will gain a direct understanding of production and structural solving problem and systems through shop tours and demonstrations similar to how this studio was taught in 2019. However, due to Covid, this is subject to conditions during the spring quarter.

STUDIO CRITIC

Earl Mark (https://faculty.virginia.edu/mark) has been teaching collapsible tension membrane fabric architecture studios at the University of Virginia since 2007 for sites on the Maine Coast, primarily Acadia National Park at Schoodic Point where he spent a research sabbatical in 2015 testing small scale mockups of structures with sensing technology as possible research labs and seasonal housing. The design research transitioned to a rapid shelter for forcibly displaced people studio and parallel research seminar series. He taught a similarly themed studio at UO in 2019. The diverse body of the student projects and propositions in the UO studio was a key motivation for the Savage Endowment grant proposal and this return visit.