

New named wing to animal care building at the Duke Lemur Center

for the expansion of the DLC's small-bodied nocturnal lemurs

Description of Need and Translational Value

The DLC is the only place in the world with a breeding colony of dwarf lemurs (the only primate that truly hibernates), making us uniquely able to study the behavioral and physiological mechanisms that enable this extreme metabolic strategy in a primate. With the Center's dedicated research infrastructure and staffing, the DLC's Hibernation Research Program is set to truly embark on a path of innovative research to better understand the physiology of primate hibernation, with implications for and applications to human biology (e.g., induced hibernation for treating head trauma and other clinical indications). This research may also be relevant for knowledge into suspended animation for space travel. Similarly, the mouse lemur has potential value for applied and translational research within human medicine as this species exhibits Alzheimer's-like neurodegeneration. The DLC is collaborating with a reputable research group to study cognition and brain physiology in aging mouse lemurs and is interested in growing this collaboration. The fundamental limitation to hibernation and aging research is the size of the respective colonies, which is limited by current housing. With expanded housing for dwarf and mouse lemurs, these research programs could truly thrive and become highly competitive for federal, agency, and foundation funding.

Project Details

The new housing structure will be approximately 65' x 85', creating ~5,500 ft² of conditioned animal housing. Approximately 10 to 12 free range and semi-free range rooms will be created to give the animals ample space to allow for species-specific behaviors and help us increase their colony size (goal: ~100 animals per species).

The building will feature:

- State-of-the-art habitats specifically designed for mouse and fat-tailed lemurs.
- Computer-controlled lighting systems will allow staff to adjust "day and night" in each room while creating the astronomical cycle these animals require.
- An energy-efficient HVAC system with built in redundancies will provide the ideal environmental conditions to allow both species to thrive.
- A hibernaculum to house hibernating lemurs in precisely controlled environmental conditions.

