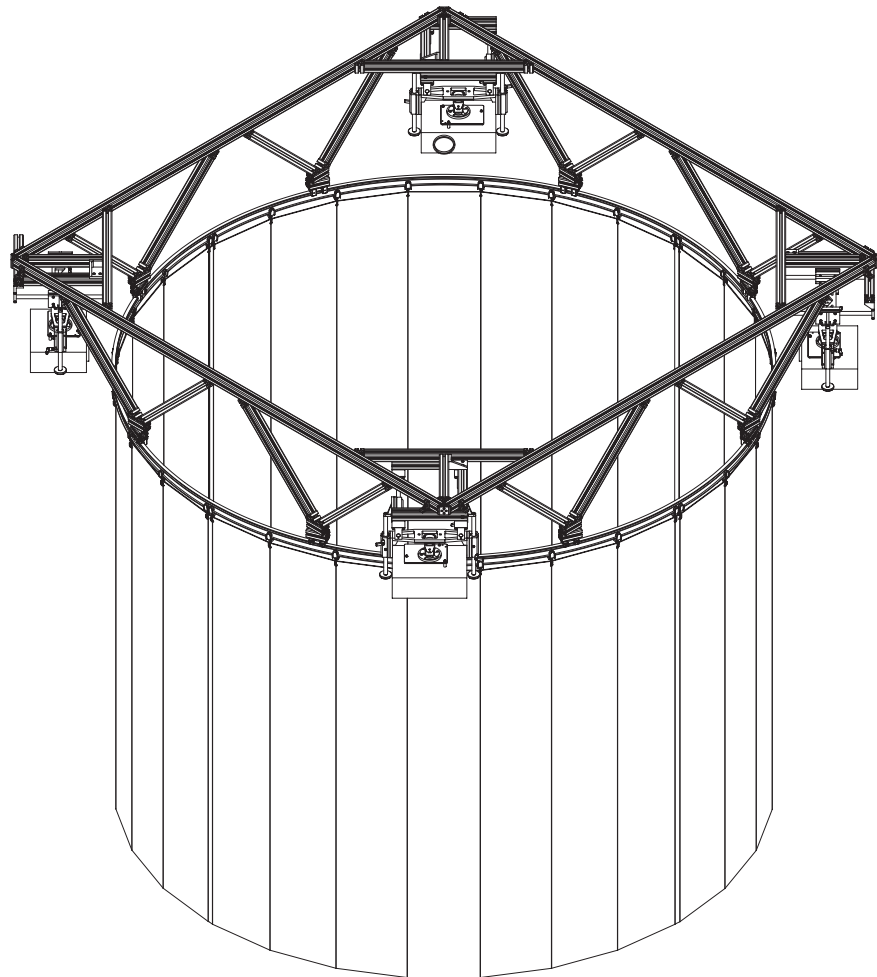


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Project Showcase



Virtual Reality for Rats

Certain behavioral assays in mice or rats seek to study the animals' responses to complex visual stimuli. To this end we constructed a "virtual reality" setup. It involves a cylindrical curtain made from a material suitable to projection and four short-throw projectors whose images overlap at their edges to produce a 360° visual field for the

rodents, which are located near the bottom edge of the curtain. The projectors produce computer-generated images that are calculated to compensate for the distortion of the curved projection plane. They are mounted above the edge of the curtain on stages that provide five degrees of freedom (in addition to the degrees of freedom of the projection optics) for optimal

flexibility in alignment for a seamless image.

Client: Janelia Farm Research Campus of the Howard Hughes Medical Institute.

Employed instrumentation: projection optics.

Design challenge: projector placement, space constraints, mounting circular curtain rails on a square frame.