



National Aeronautics
and Space Administration

Center for Gravitational Biology Research

Gravitational Biology Research

1.22-Meter Radius Centrifuge

The 1.22-meter radius (8-foot diameter) centrifuge is designed to create hypergravitational conditions for temperature-controlled small animal, plant, and tissue chip research. Four radial arms are configured to handle 51 cm x 64 cm x 61 cm habitats for acute or chronic studies. Each of the four stations has a swing bucket. The habitats can be positioned 93 cm to 162 cm from the center of rotation with a resulting acceleration range of up to 4G at the maximum rotational rate of 10 to 45 RPMs. Each enclosure has a payload capacity up to 113 kg. Continuous habitat data and video are available off-board. Standard AC power is provided through mechanical slip rings to power onboard DC power supplies.

Operational Characteristics:

- Chronic exposures (with stops for animal husbandry) to 4G
- Small animals, plants, tissue cultures
- Continuous data and video acquisition
- Rotational and stationary controls

Performance Limits and Specs:

Radius:	93 – 162 cm (w. extension)
Payload:	113 kg per habitat
Max G:	1G – 3G (potential to 4G)
Max RPM:	10 – 45 RPM



Contact NASA Ames Research Center's
The Center for Gravitational Biology Research
for experiment design and customization information.

ARC-DL-CENTRIFUGE@MAIL.NASA.GOV

nasa.gov/ames/space-biosciences