The invention claimed is:

1. A simulator ride comprising:

an annular structure comprising a path integrated with the annular structure, wherein the path is arranged along at least a portion of the annular structure to form at least a partial annulus;

a headset comprising a display and configured to be worn by a passenger; and

a passenger support system coupled to the path and configured to move along the path of the annular structure to rotate the passenger support system about a center axis of the annular structure when the simulator ride is in operation, wherein the passenger support system comprises a clamp-style leg restraint and a rear restraint separate from the clamp-style leg restraint, wherein the clamp-style leg restraint is configured to pivot about the central axis toward the rear restraint to move the clamp-style restraint from an unrestrained configuration to a restrained configuration, and wherein the simulator ride is configured to articulate the annular structure in one or more degrees of freedom.

2. The simulator ride of claim 1, wherein the passenger support system is configured to maintain the passenger in a seated position such that the passenger is positioned between a center of the annular structure and the rear restraint.

3. The simulator ride of claim 1, wherein the passenger support system comprises a chest restraint configured to form a clamp-like structure with the rear restraint.

4. The simulator ride of claim 3, wherein a leg clamping force of the leg restraint is greater than a chest clamping force of the chest restraint on the passenger.

5. The simulator ride of claim 1, wherein the headset is configured to provide images on the display, wherein the images are synchronized with a movement of the passenger support system.

6. The simulator ride of claim 1, wherein the headset is a virtual reality device.

7. The simulator ride of claim 1, wherein the path is arranged along an interior surface of the annular structure.

8. The simulator ride of claim 1, wherein the passenger support system is configured to rotate clockwise and counterclockwise.

9. The simulator ride of claim 1, wherein images displayed on the headset are selected based on a user input.

10. An amusement ride comprising:

an annular structure;

a ride base configured to support the annular structure and configured to articulate the annular structure in one or more degrees of motion; and

a passenger support system coupled within the annular structure and configured to rotate about a center axis of the annular structure, wherein the passenger support system is configured to maintain a passenger during a rotation of the passenger support system, and wherein the passenger support system comprises a clamp-style leg restraint configured to secure a passenger within the passenger support system, wherein the clamp-style leg restraint comprises a pivoting arm, a first leg pad, and a second leg pad, wherein each of the first leg pad and the second leg pad are coupled to the pivoting arm such that the first leg pad and the second leg pad are longitudinally spaced apart along a length of the pivoting arm.

11. The amusement ride of claim 10, wherein the one or more degrees of motion comprises a translational motion or a rotational motion.

12. The amusement ride of claim 10, wherein the passenger support system is fixed to the annular structure, and wherein the annular structure is configured to rotate about the center axis of the annular structure.

13. The amusement ride of claim 10, comprising a controller configured to stop the rotation at any of a plurality of positions about the center axis of the annular structure.

14. The amusement ride of claim 10, wherein the ride base is a rigging comprising a plurality of cables and configured to suspend the annular structure from above.

15. The amusement ride of claim 10, wherein the ride base comprises a bogie.

16. A multi-passenger simulator ride comprising:

a plurality of annular structures;

a corresponding plurality of headsets configured to receive signals and display images based at least in part on the received signals; and

a corresponding plurality of passenger support systems, each coupled to one of the plurality of annular structures, and each configured to rotate within one of the plurality of annular structures about a center axis, wherein each of the plurality of passenger support systems comprises: a leg restraint comprising one or more leg pads fixed to a movable arm; and a rear restraint separate from the leg restraint and configured to support a passenger within a passenger support system of the plurality of passenger support systems, wherein the movable arm is configured to move relative to the rear restraint about the center axis, and wherein the leg restraint is configured to maintain the passenger against the rear restraint.

17. The multi-passenger simulator ride of claim 16, wherein the plurality of headsets are individually addressable by a controller and are configured to display different images to different passengers based on the received signals.

18. The multi-passenger simulator ride of claim 16, wherein the plurality of annular structures each comprise two co-axial circular rails, and wherein the passenger support system is positioned within an opening formed between the two co-axial circular rails.

19. The multi-passenger simulator ride of claim 16, wherein each headset of the plurality of headsets is a virtual or augmented reality device.