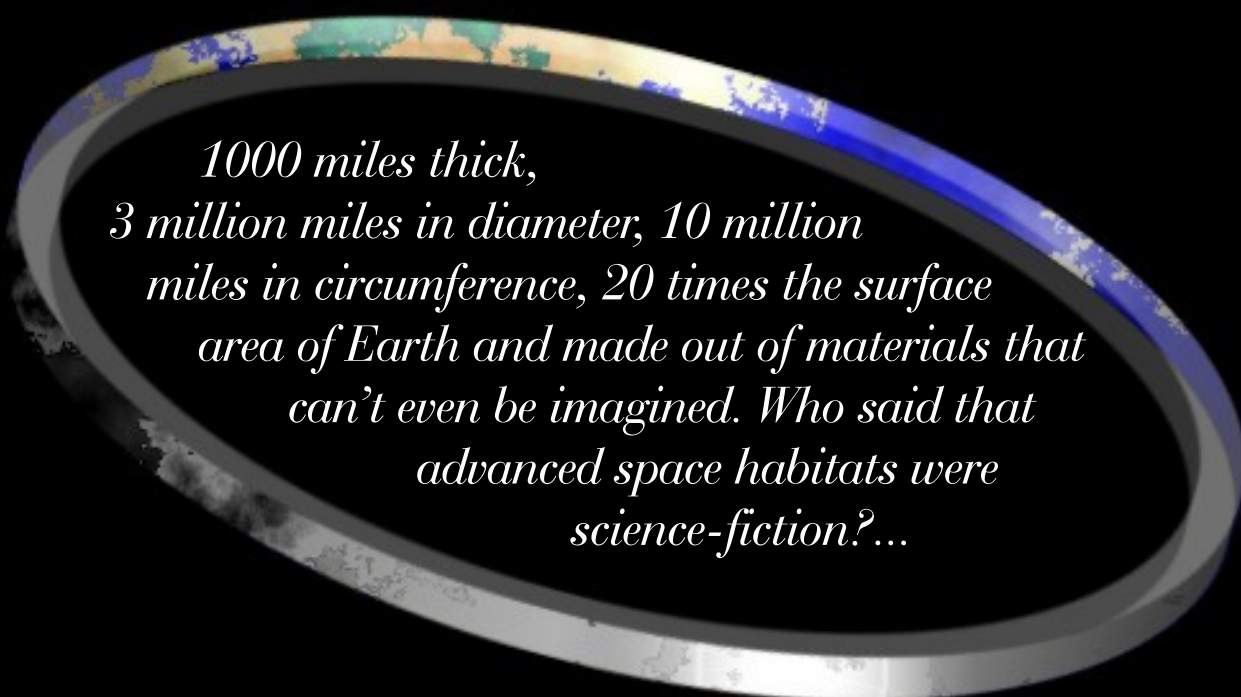


<http://library.thinkquest.org/C003763/index.php?page=habitat01>

A 3D perspective diagram of a large, ring-shaped orbital space habitat. The ring is shown as a thick, greyish-white band with a blue and white speckled interior surface, resembling Earth's atmosphere and clouds. It is set against a black background.

*1000 miles thick,  
3 million miles in diameter, 10 million  
miles in circumference, 20 times the surface  
area of Earth and made out of materials that  
can't even be imagined. Who said that  
advanced space habitats were  
science-fiction?...*

A diagram of Iain M Banks' advanced space habitat concept called an 'Orbital'. Despite its impressive statistics, pales in comparison to the 'Ring' described by Larry Niven or the famous Dyson Sphere. All are discussed in the *Orbitals and Dyson Spheres* section.

In the future, the duration of space missions will likely increase drastically. Instead of going into space for a few weeks or months, missions could last years or even decades. As humans explore beyond low Earth orbit and head to destinations as distant Mars and beyond, the space habitats that are home to astronauts will have to be sufficiently advanced to make these long journeys as comfortable as possible.

This mini-section of *Astrobiology: The Living Universe* talks about modern space stations, futuristic space stations, the life support systems that allow humans to survive in space and the difficulties of reproducing in space.



# Space Habitats

## *Introduction*

<http://library.thinkquest.org/C003763/index.php?page=habitat01>

### **Space Stations**

The history of space stations is an interesting account of the technological progression in the modern space age. Learn about Salyut, Spacelab, Mir and the International Space Station!

### **Orbitals and Dyson spheres**

While space stations today are impressive feats of engineering, they are nothing in comparison to what the future has in store! Dyson spheres, Orbitals and Ringworlds are space habitats envisioned by scientists and authors who have ambitious visions for the futuristic space habitats.

### **Life Support in Space**

The environment in space has no atmosphere, no gravity, no food and no water. So how can humans survive in outer space?

### **Reproduction in Space**

The weightless environment of space can effect the reproductive cycles of organisms in space. Learn about the growth and reproduction of plants, amphibians and animals in space here!