High Energy Radiation Induced Activation of COX-2 and MMP-9 is Mediated by NF-kappaB

Space radiation is a known carcinogen, and astronauts are exposed to high-energy radiation. In this study, we demonstrate that high-energy radiation activates cyclooxygenase-2 and matrix metalloproteinase-9 through the NF-kB pathway.

Microgravity Effects on Yersinia Pestis Virulence

Microgravity effects on Yersinia pestis proliferation, cold growth, and type three secretion system function were evaluated in macrophage cell infections, HeLa cell infections, and cold growth plate assays.

Astrobiology, Molecular Phylogenetics and Evolutionary Studies at Texas Southern University

To better understand fungal evolution, nuclear and mitochondrial genes are used to estimate rates and patterns of DNA change within and among the Aspergillus clade.

Optimization of Prey-Predator Chain in Closed Aquatic Ecosystem

Closed Aquatic Ecosystem is commonly regarded as essential model ecosystem in studying CELSS. Higher aquatic animal stabilize a former binary system.

Insights from Cyanobacterial Genomes for the Development of Extraterrestrial Photoautotrophic Biotechnologies

Using genomic and metagenomic analysis, Fe-tolerant cyanobacterial species with a large and diverse set of stress-tolerant genes, were identified as prime candidates for in situ resource utilization in a bioreactor at extraterrestrial outposts.

Enzyme Kinetics in Microgravity

The kinetics of some enzymes have been found to be enhanced by the microgravity environment. This is a relatively small effect, but is sufficient to have physiological effects and to impact pharmaceutical therapy in microgravity.