

# First Galaxies

## **A statement in support of the James Webb Space Telescope**

from the ~ 50 delegates of the international workshop 'First Galaxies',  
held at the conference site of the Max-Planck Society at Ringberg Castle,  
June 26 – July 1, 2011

Modern astronomy captures the excitement of exploring the frontiers of the universe, thanks to observations from powerful telescopes on the ground and in space. Of these, the best known is Hubble Space Telescope which has provide spectacular images of celestial objects of unprecedented beauty, and whose analysis has probed the origins of stars and of galaxies to within less than a billion years of the Big Bang, when the universe was less than ten percent of its current age. Understanding our cosmic origins is one of the primary goals of modern science and the study of the early universe is one of the most exciting and fastest growing areas of astronomy.

Exploring the early universe presents a unique challenge for astronomical observations. The starlight from the first galaxies arrives at earth as infrared radiation, while the extreme distances involved render ordinary galaxies nearly invisible to either Hubble or large telescopes on the ground. The next steps along the path of discovery must therefore be taken with an infrared, space-based telescope with unprecedented sensitivity. The James Webb Space Telescope will have this unique capability, providing an essential tool for exploring the assembly of galaxies in the early universe. JWST will allow us to probe the epoch when the structures of the modern universe first emerged. The success of JWST is essential for revealing the primitive origins of galaxies such as the Milky Way, and its evolution from infancy to maturity.

The delegates of this meeting strongly and enthusiastically support the mission of JWST. We urge that it remain core to the NASA program of cosmic origins exploration. We note that European participation in JWST is in a highly advanced stage. European science will be severely impacted should the US-led project be canceled, and such an eventuality would undoubtedly lead to adverse implications for other joint projects.

The launch of JWST will herald a new age of astronomical discovery. We look forward to an era of exploration of the cosmic dawn.

Approved unanimously, August 12, 2011

