The Square Kilometre Array (SKA) is a revolutionary telescope that will address a broad range of key science areas in galaxy evolution and cosmology, astrobiology, planet formation, and fundamental physics. The wide wavelength coverage of the SKA requires different technologies to cover the full wavelength range. The illustration here shows only the inner core of the parabolic reflector array. The sky image is based on a simulation of hydrogen in galaxies at redshift 1. Figure by D. Obreschkow, European SKA Design Studies program, Xilostudios, NRAO/AUI, and the US SKA Consortium.