

# HST ACS/HRC imaging of the intergalactic HII regions in NGC 1533

J. K. Werk<sup>1</sup>, M. E. Putman<sup>1</sup>, G. R. Meurer<sup>2</sup>, E. V. Ryan-Weber<sup>3</sup> and M. S. Oey<sup>1</sup>

<sup>1</sup> Department of Astronomy, University of Michigan, Ann Arbor, MI, USA; jwerk@umich.edu

<sup>2</sup> Department of Astronomy and Physics, Johns Hopkins University, Baltimore, MD, USA

<sup>3</sup> Institute of Astronomy, University of Cambridge, Cambridge, CB3 0HK, UK

**Abstract.** Intergalactic HII regions, far from the confines of a galactic disk, represent a mode of star formation in low-density gas outside of galaxies. The figure below (left) shows an R-band continuum image of NGC 1533 from the SINGG H $\alpha$  survey (Meurer *et al.* 2006) overlaid with HI contours and the location of three intergalactic HII regions discovered by Ryan-Weber *et al.* (2004). The HI contours are 1.6, 2.0, 2.4, 2.8, 3.2 and 4.0  $\times 10^{20}$  cm<sup>-2</sup> and have a resolution of  $\sim 1'$ . ACS/HRC images of the intergalactic HII regions (right) are composites of UV, V, and I bands. The half-light radii of the clusters associated with regions 1, 2, and 5 are 24.7, 21.7, and 17.0 pc, respectively, at the distance to NGC 1533 (21 Mpc; Tonry *et al.* 2001). Assuming a Salpeter IMF with  $M_{up} = 100$ , H $\alpha$ /UV ratios indicate a small number of ionizing O stars relative to the total number of UV-emitting O and B stars. These young (4-6 Myr), intergalactic stellar populations lend valuable insight to our understanding of the methods by which star formation is triggered and may even represent the first episodes of star formation in emerging galaxies.

## References

Meurer *et al.* 2006, *ApJS* 165, 307

Ryan-Weber *et al.* 2004, *AJ* 127, 1431

Tonry *et al.* 2001, *ApJ* 421, 681

