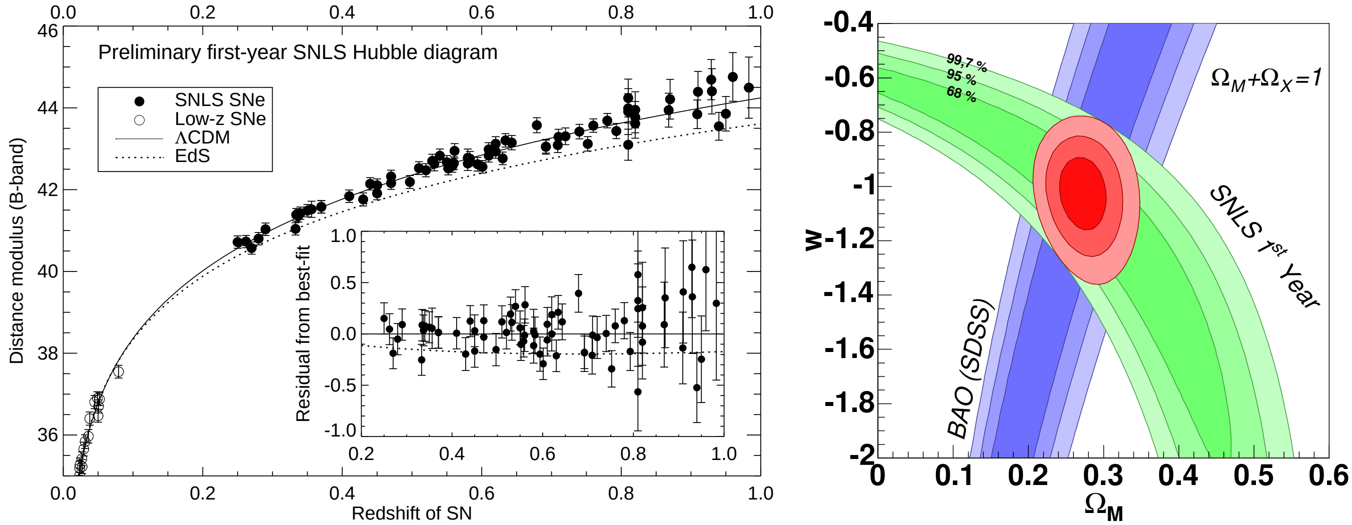
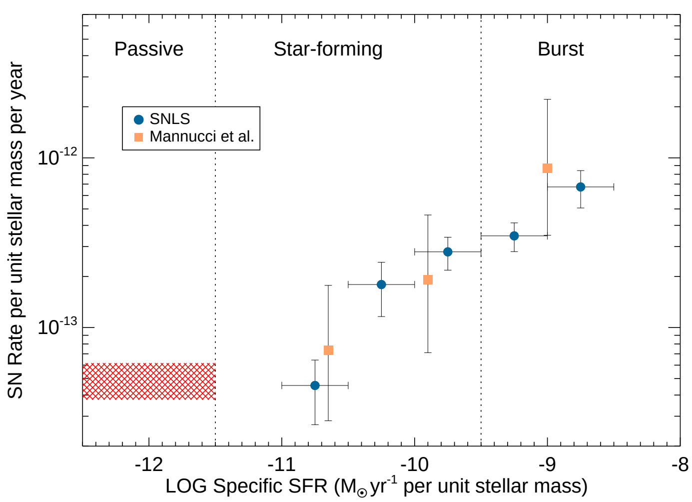
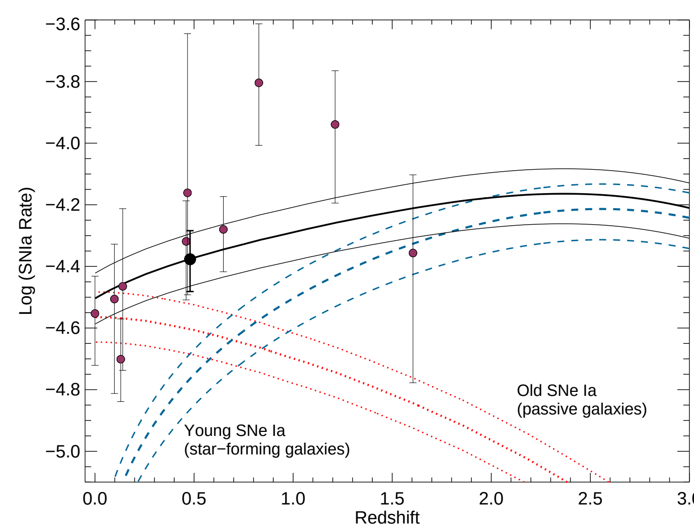


Figure 1: Current SNLS cosmological results. **Left:** The SN Ia Hubble diagram from the first full year of data (71 high-redshift SNe; Astier et al. 2006), only a quarter of the current SNLS sample, yet already the largest homogeneous SN sample. Inset shows the residuals from the best-fitting cosmology. The best-fit flat cosmology is Ω_M=0.263 ±0.042 (*stat*) ±0.032 (*sys*) (Astier et al. 2006). **Right:** Constraints in Ω_M versus w. Solid lines show the current 1, 2 and 3σ confidence limits. The current constraint is $w = -1.023 \pm 0.090$ (*stat*) ±0.054 (*sys*) when combined with the SDSS baryon acoustic oscillations result (Eisenstein et al. 2005). Similar results are obtained when SNLS is combined with the 3rd year WMAP data. The end-of-survey results will provide constraints on w of ±0.05 or better.





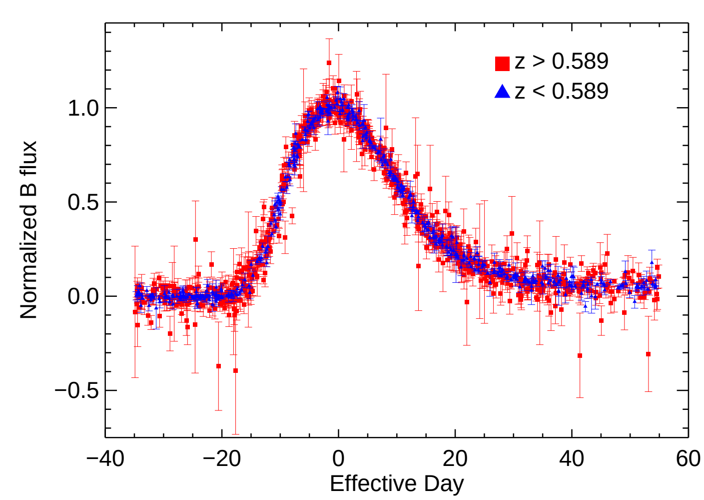


Figure 2: A selection of science results investigating systematics from the SNLS; Keck plays a crucial role in defining the datasets which allow tests for SN evolution such as those described here. **A) (above:)** The rate per unit stellar mass as a function of host galaxy type from Sullivan et al. (2006a). The SN Ia rate per unit mass is around ten times higher in strongly star-forming galaxies than in passive systems, a surprising result with implications for the nature of the SN Ia progenitor system. **B) (above right):** By modeling the SN Ia rate as the sum of an old and young progenitor component (Scannapieco & Bildsten 2005; Mannucci et al. 2005,2006) and combining with a knowledge of the cosmic star-formation history, the relative importance of each component evolves with redshift. Understanding the properties of each component will lead to an improved cosmological candle; SNLS is the ideal survey to perform this analysis. **C) (lower right):** Unprecedented early-time light-curve data allows a study of the rise-times of SNLS SNe Ia from Conley et al. (2006). Shown is the normalised and light-curve-width corrected rest-frame *B*-band SNLS SN Ia light-curves. The data allow a powerful internal consistency check: blue triangles are SNLS SNe at lower redshift, red squares those SNLS SNe at higher redshifts. The rise-times of the two samples are consistent. Furthermore, the consistency in the shape of the light-curves is spectacular across our entire redshift range.