On a semilinear elliptic boundary value problem

We prove an existence result of positive solutions of the semilinear elliptic equation

$$\begin{cases} \Delta u = W'(u), & x \in \Omega, \\ u = 0, & x \in \partial\Omega, \end{cases}$$

where $\Omega \subset \mathbb{R}^n$ is a Lipschitz domain and $W : \mathbb{R} \to \mathbb{R}$ is a C^2 function satisfying suitable assumptions.

Moreover, we give an exponential estimate on the solution and discuss the extension of such an analysis to the case of mixed Dirichlet-Neumann boundary conditions.

Joint work with G. Fusco and F. Leonetti.