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**INFINITE MULTIPLICITY OF POSITIVE SOLUTIONS FOR  
SINGULAR NONLINEAR ELLIPTIC EQUATIONS WITH  
CONVECTION TERM AND RELATED SUPERCRITICAL  
PROBLEMS.**

CARLOS ARANDA

In this talk, we consider the singular nonlinear elliptic problem

$$\begin{aligned} -\Delta u &= u^{-\alpha} + h(\nabla u) + f(u) && \text{in } \Omega \\ u &> 0 && \text{in } \Omega \\ u &= 0 && \text{on } \partial\Omega, \end{aligned}$$

where  $0 < \alpha < \infty$  and  $\Omega$  is a bounded domain in  $R^N$ . Under suitable assumptions on  $h$ ,  $f$  and  $\Omega$ , we obtain infinite multiplicity results. Moreover, we state infinite multiplicity results for related boundary blow up supercritical problems and for supercritical elliptic problems with Dirichlet boundary condition.

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