

**Section number:** 09.

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**Title of the poster:** Bifurcation problems associated to the singular Lane-Emden-Fowler equation with convection term

**Text of the abstract.** We expose some bifurcation results for the generalized Lane-Emden-Fowler equation  $-\Delta u = g(u) + \lambda|\nabla u|^p + \mu f(x, u)$  in  $\Omega$ ,  $u > 0$  in  $\Omega$ ,  $u = 0$  on  $\partial\Omega$ , where  $\Omega$  is a smooth bounded domain in  $\mathbb{R}^N$ ,  $\lambda \in \mathbb{R}$ ,  $\mu \geq 0$ ,  $0 < p \leq 2$ ,  $f$  is non-decreasing with respect to the second variable, and  $g$  is unbounded around the origin. The asymptotic behaviour of the solution around the bifurcation point is also established, provided  $g(u)$  behaves like  $u^{-\alpha}$  around the origin, for some  $0 < \alpha < 1$ . Our approach relies on finding explicit sub- and super-solutions combined with various techniques related to the maximum principle for elliptic equations. We distinguish two different cases, corresponding to a sublinear (resp. linear) growth of  $f$  at infinity. Our analysis emphasizes the combined effect of the nonlinearities  $f$  and  $g$ , as well as the key role played by the convection term  $|\nabla u|^p$ .

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**1991 Mathematics Subject Classification:** 35A20, 35B25, 35B50, 35J60, 58J55, 58K55.

**Key words:** Lane-Emden-Fowler equation, singular elliptic equation, bifurcation problem, maximum principle, asymptotic analysis.