

Seminar of the Work Group  
Nonlinear Partial Differential Equations  
SS 23

**July 20th, 2023, 14:00 - 15:30**  
**Seminar room: SR 3.068**

## Uniqueness results for local and non-local Dirichlet problems

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### **Abstract**

We present our recent contributions on the problem of the uniqueness for positive solutions of semilinear Dirichlet problems with a power nonlinearity. This question arose from the famous symmetry result by Gidas, Ni, Nirenberg (1979), which implies uniqueness for the Lane-Emden problem when the domain is a ball. A conjecture on the uniqueness in any convex domain was then formulated during the eighties, but only partial answers have been given so far. In this talk we describe recent results for the Lane-Emden problem obtained in  $\text{dim}=2$ . We also discuss some uniqueness results in the nonlocal case