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Jann-Long Chern and **Chun-Hsiung Hsia*** (willhsia@ntu.edu.tw), Department of Mathematics, National Taiwan University, No 1, Sec 4, Roosevelt Rd, Taipei, 10617, Taiwan, and **Chang-Shou Lin** and **Wadade Hidemitsu**. *On semilinear elliptic equations involving Sobolev and Sobolev-Hardy critical nonlinearities with singularities on the boundary.*

We consider a series of elliptic partial differential equations arising from the study of the extremal functions for Caffarelli-Kohn-Nirenberg (CKN)'s inequalities. By assuming the respective negative/positive curvature of the singularity on the boundary, Ghoussoub-Kang showed the existence of positive solutions on the Dirichlet/Neuman problem, respectively. Recently, in collaboration with Lin and Wadade/ Wadade and Chern respectively, we have remarkably improved the existence theorems for Dirichlet/Neumann problems. In particular, regarding the Neumann problem, we get rid of the curvature constraint. (Received February 16, 2013)