The variable coefficients thin obstacle problem

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In this talk I will present joint work with Herbert Koch and Angkana Rüland on the regularity theory for the variable coefficients thin obstacle problem. More specifically, I will talk about the optimal regularity of the solution and the $C^{1,\alpha}$ regularity of the regular free boundary when the coefficients are only in $W^{1,p}$ for p>n+1. I will also talk about the higher regularity of the free boundary if the coefficients are more regular.