The Hardy inequality on bounded domains for mean zero functions

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In this talk, we study a minimization problem with two weight parameters, for admissible functions whose weighted L^2 are 1 and weighted mean are zero. The minimum value is the best constant of the weighted version of Neumann Hardy's inequality. We find conditions of parameters and dimension, for which the best constant is positive and attained for a given domain. This talk is based on a joint work with Jaeyoung Byeon (KAIST) and Eunchan Jeon (KAIST).