Effective perception is a fundamental cognitive faculty, underpinning all other mental functions. One key aspect of perception is its sensitivity to changes in the environment. In the nineteenth century it has been noticed that the vast individual differences in sensory discrimination among people allow to predict their performance on the number of more complex tasks. Unfortunately, brain mechanisms of individual variation in sensory discrimination was not a subject of intensive research programs and is virtually unknown. In the present project, we are looking for mechanisms that would explain why some people, compared to others, need a larger difference in size for correctly telling which of two objects is bigger (or need more time for making this judgement), or require a longer interval between two sounds for detecting their sequence. Specifically, we expect that indices of perceptual discrimination for different task types and various modalities, to date studied in isolation, form one higher-level general perceptual resolution factor. Moreover, we assume that general perceptual resolution represents a real feature of the human neural system, being determined by the precision and repeatability of coupling between the slow and fast brain rhythms. The project aims at identification of couplings related to general perceptual resolution as well as the deepened analysis of their properties. The final test of the plausibility of our analyses will consist of attempt to stimulate perceptual resolution by means of non-invasive transcranial electrical stimulation using alternating current. We expect that the knowledge on oscillatory mechanisms underpinning perceptual resolution will allow its effective enhancement. The project covers psychometric, psychophysiological, and data-analytic studies, divided into three stages aimed at (1) identification of general perceptual resolution by means of confirmatory factor analysis and establishing its characteristic coupling of oscillations, (2) exploration of phase-amplitude couplings underlying general perceptual resolution and their relationships with other markers of brain activity, and finally (3) stimulation of general perceptual resolution. The projects encompasses various methods of recording and modeling of brain activity. The project might bring more knowledge on how sensitive our perception is and why we mutually differ in its sensitivity.