

# Electrophysiological approaches to *Kansei*, the integrated cognitive and affective function of the human mind



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*Kansei* is a Japanese word for sensibility or sensitivity, but it has many connotations that make it difficult to translate into other languages. Generally, it can be conceptualized as the integrated cognitive and affective function related to the intuitive feeling and appreciation of the world around us.

In this talk, I will give an outline of three electrophysiological approaches to *Kansei* that have been developed in our laboratory for several years by means of event-related brain potentials (ERPs). The first approach correlates ERPs elicited by everyday visual objects such as drawings and industrial designs with the viewer's subjective impression of the objects. We have found that several ERP components vary with the viewer's interest and attractiveness judgment. The second approach assesses a participant's attention to a certain experience through ERPs elicited by probe stimuli unrelated to the main task. We have developed a new probe method using somatosensory (vibratory) stimuli that do not mask the ongoing audiovisual experience. The third approach evaluates users' mental states during human-computer interaction by recording ERPs in response to their action effect. We have found a number of ERP signals that reflect cognitive mismatch between the user's expectation and the actual response of the computer. These diverse approaches using ERP measures will promote our understanding of *Kansei* and other cognitive, affective, and conative aspects of human mental activities.

*For those who have no MSU pass: to get access to the seminar, please send your name and the name of your organization to Sergei Shishkin ( [sergshishkin@mail.ru](mailto:sergshishkin@mail.ru) ) no later than Sept. 3.*