

Devpriya Kumar

Assistant Professor (Psychology)
KD-224 Khadim Deewan Building,
Department of Humanities & Social Sciences,
Indian Institute of Technology, Kanpur.

devpriya@iitk.ac.in

Phone:

+91-512-259-6841 (O)

+91-9956808957 (M)

Research Areas

Perception & action, event-perception, emotion perception, embodied cognition, control system approach to human cognition, self, agency, consciousness, intentionality, eye-movements, Human-Computer interaction, complex systems approach to cognition.

Ongoing Projects

Sense of agency & Control- Previously it has been shown that there is a close link between control exercised and our sense of being the agent of our actions (sense of agency). Using various electrophysiological/neuroimaging techniques, I further investigate this link with the help of framework offered by multi-scale event-control approach (Jordan, 2013; Kumar & Srinivasa, 2014).

Intentionality and inhibitory control of attention- Traditionally, actions are distinguished in terms of whether or not they were intentional in nature. Intentionality of actions have been found to influence not only how we act, but also how we perceived. For example, effects of intended actions are perceived closer in time to intentional actions compared to unintentional actions. Using EEG, I investigate how inhibitory control of attention in a flanker task is influenced by whether outcome of an action is congruent to the intention or not.

Intentionality of saccadic movement and time perception- When we suddenly look at clock hand, at times it feels as if the clock hand has stopped moving, this illusion of momentary pause of the clock is known as chronostasis and is often used to show that eye-movements cause distortion in perceived time. I am investigating if intentionality of the saccades also influences perception of time for events immediately following a saccade.

Dynamics of control - Control refers to the tendency of a system to show invariance of behaviour in noisy environment, for example, trying to balance on a rope where one tries to maintain invariant centre of gravity in a noisy environment. Control involves, monitoring and correcting certain environmental effect over a period of time. I am investigating how this dynamic nature of control can be studied in human participants, mainly using long range temporal correlations and how this ability to exercise control is influenced by the nature of effect that we are trying to control.