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# Symposium: Eye Movements in Cognitive Science

Organized by:

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The field of eye movement research is very versatile. It is of interest to scientists from a broad range of disciplines. A partial list of fields in which eye movements have been studied and lead to useful insights includes Psychology, Neuroscience, Artificial Intelligence, Computer Vision and Human Factors. All of these disciplines are likely to be represented at this Cognitive Science Conference.

Cognitively-oriented research involving eye movements has proceeded in two directions: (i) by finding out how perceptual and cognitive factors influence eye movement patterns, and (ii) by using eye movement data to gain insights about perceptual and cognitive processes. Speakers in this symposium will describe research coming from both directions. Specifically, they will talk about the role that eye movements play in various perceptual and cognitive tasks, and they will also describe eye-movement-based models of how such tasks are performed.

The talks will be ordered in a "bottom-up" manner: starting with sensory and oculomotor processes and moving up to high-level reasoning. The first speaker will talk about cognitive and sensory processes involved in scanning complex visual scenes. The second speaker will focus on a higher-level task, visual search. He will describe model of visual search strategy based on eye movement data. The last speaker will address a very high-level task, solving geometry problems. She will describe the eye movement patterns observed, and a model of mental operations based on these eye movement patterns.

Following the three speakers, Prof. Patrick Suppes, the symposium chair, will comment on the significant insights that eye movement data can provide to the study of cognitive and perceptual processing, and consider theoretical issues involved in modeling eye movement data.

Each speaker will have 17 minutes for the talk and , 3 minutes for questions. There will be a 10 minute period for general discussion, lead by the chair, at the end of the symposium.

The abstracts of the talks of the three main speakers follow.