SPEAKER:

Dr. Benjamin Tatler

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DATE:

Wednesday the 23rd of February 2011

TIME:

15:15 - 16:15

LOCATION:

Heriot-Watt University, Earl Mountbatten Building; room 3.02

TITLE:

Vision in natural behaviour

ABSTRACT:

Successful completion of many everyday activities requires that foveal vision is allocated to the right place at the right time. Models of gaze allocation in complex scenes are derived mainly from studies of static picture-viewing. The dominant framework to emerge has been image salience, where properties of the stimulus play a crucial role in guiding the eyes.

However, salience-based schemes are poor at accounting for many aspects of picture-viewing and can fail dramatically in the context of natural task performance.

These failures have led to the development of new models of gaze allocation in scene viewing. However, even the latest models can be thought of as modifications to the image salience framework, where a core bottom-up mode of looking is modified by high-level constraints.

There is a need to move away from this class of model and find the principles that govern gaze allocation in a broader range of settings.

We outline the major limitations of salience-based selection schemes and highlight what we can learn from studies of gaze allocation in natural vision. Overarching principles of selection are found across many instances of natural vision and these are not the principles that might be expected from picture-viewing studies.