

# THE YORKSHIRE VISION NETWORK

## STEERING GROUP

Melanie Burke, University of Leeds - Mary-Ellen Large, University of Hull - Simon Hickman, University of Sheffield - Declan McKeefry, University of Bradford - Antony Morland, University of York - Peter Thompson, University of York

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## 6<sup>th</sup> Annual Meeting: June 7<sup>th</sup> 2013 at the York Medical Society.

Dear Colleague,

We would like to invite you and/or members of your research group to the 6<sup>th</sup> annual meeting of the **Yorkshire Vision Network** (YVN) which will be held at the Medical Society, York on June 7<sup>th</sup> 2013. The aim of the YVN is to establish research links between scientists and clinicians from Yorkshire Universities and Hospitals in order to pursue exciting new lines of enquiry and to exploit the combined resources for vision research that are available across the region.

The programme for the meeting is given below. We are very pleased that Professor Karl Friston, FRS has accepted our invitation as our external speaker.

<b>Time</b>	<b>Event</b>
09:00	----- <b>Registration &amp; Coffee</b> -----
09:50	Opening remarks Tony Morland
10:00	<b>Mary-Ellen Large</b> (University of Hull) <i>'Decades of theorizing about object categorization down the drain'</i>
10:30	<b>Jac Billington</b> (University of Leeds) <i>'The role of the parietal lobe in detecting future path'</i>
11:00	<b>David Keeble</b> (University of Bradford) <i>'Headscarves, Hair and Face Recognition'</i>
11:30	----- <b>Coffee</b> -----
12:00	<b>Karl Friston, FRS</b> (University College London) <i>'Active vision: Percepts as hypotheses and Saccades as experiments'</i> <i>(please see the attached abstract)</i>
13:00	----- <b>Lunch</b> -----
13:45	<b>Dr Megan Freeth</b> (University of Sheffield) <i>'Looking at eye movements in the real world: insights into social attention'</i>
14:15	<b>Daniel Baker</b> (University of York) <i>'Detection of sparse and spatially extensive textures'</i>
14:45	Closing remarks – Peter Thompson
15:00	----- <b>Beer reception &amp; POSTERS at the Phoenix Public House</b> -----

There will be a registration fee of £25 (£15 for students). Registration will include coffee, lunch and a free drink at the poster session. The deadline for registration is 30<sup>th</sup> May. Registration after this date will be £40 (£25 for students).

\*The cost of conference bbq (including another free drink) held at The Phoenix public house will be £8. Please note that food will be provided early in the evening at about 5pm to allow those wishing to catch early trains to get to the station. There will be a vegetarian option.

## **Posters**

Please note there is limited space for posters so the poster allocation will be on a first come first served basis.

**Contacts:** If you have any questions about the conference please contact one of the following people

York: Tony Morland (a.morland@psychology.york.ac.uk) & Peter Thompson (pt2@york.ac.uk)  
Bradford: Declan McKeefry (d.mckeefry@bradford.ac.uk)  
Sheffield: Simon Hickman (Simon.Hickman@sth.nhs.uk)  
Leeds: Melanie Burke (M.R.Burke@leeds.ac.uk)  
Hull: Mary-Ellen Large (M.Large@hull.ac.uk)

## **Location:**

The York Medical Society is located in the centre of York at: 23 Stonegate (YO1 2AW) (see: <http://www.yorkmedsoc.org/>). This venue is in easy walking distance from York railway station. It is also centrally located near York Minster, so enables the conference goer to enjoy many of the local attractions.

If you would like to attend the meeting could you please complete the section below and return it to:

*Prof A.B. Morland, Department of Psychology, University of York, York, YO10 5DD*

**PLEASE RESPOND BY 30<sup>TH</sup> May**

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## THE YORKSHIRE VISION NETWORK 6<sup>th</sup> Annual Meeting Registration Form

Name:

Contact address & email:

*I wish to attend the 6<sup>th</sup> Annual YVN meeting (and enclose registration fee £25)*

*I'm a student and wish to attend the YVN meeting (and enclose a registration fee of £15)*

*I would like to attend the conference bbq (and enclose £8)*

*I would like to bring a poster to the YVN, if space is available*

*I enclose a cheque to the value of £*

*made payable the University of York*

***'Active vision: Percepts as hypotheses and Saccades as experiments'***  
**Karl Friston, FRS (University College London)**

**Abstract**

How much about our interaction with – and experience of – our world can be deduced from basic principles? This talk reviews recent attempts to understand the self-organised behaviour of embodied agents, like ourselves, as satisfying basic imperatives for sustained exchanges with the environment. In brief, one simple driving force appears to explain many aspects of action and perception. This driving force is the minimisation of surprise or prediction error that – in the context of perception – corresponds to Bayes-optimal predictive coding (that suppresses exteroceptive prediction errors) and – in the context of action – reduces to classical motor reflexes (that suppress proprioceptive prediction errors). We will look at some of the phenomena that emerge from this principle; such as hierarchical message passing in the brain and the perceptual inference that ensues. These perceptual abilities rest upon prior beliefs about the world – but where do these beliefs come from? We will consider recent proposals about the nature of prior beliefs and how they underwrite active sampling of the sensorium. Put simply, to minimise surprising states of the world, it is necessary to sample inputs that minimise uncertainty about the causes of sensory input. When this minimisation is implemented via prior beliefs – about how we sample the world – the resulting behaviour is remarkably reminiscent of visual searches and other forms of active inference. In short, if percepts correspond to hypotheses, then action could be construed as sampling data to test perceptual hypotheses – and accrue evidence for our very existence. I hope to illustrate these points using simulations of action observation and saccadic eye movements.