**EARLI Advanced Study Colloquium 2012**

# In the eye of the learner: Using eye tracking to design and evaluate education & training

We are constantly moving our eyes in many different ways; we close our eyelids (blink), focus on a character within a word or an element within an image (fixation), move from one word or one element to another (saccade), and our pupil changes its size (pupil dilation). Eye tracking is a technique to record all of these movements and to relate them to a stimulus providing insight into what a learner attended to, for how long and in which order (cf. Holmqvist, Nyström, Andersson, Dewhurst, Jarodzka, & Van de Weijer, 2011). Furthermore, eye tracking data informs about cognitive states relevant for learning (such as level of processing, affective reaction, or mental effort) from particular eye movement events (pupil dilations, fixation durations, blinking rate, etc.).

With the development of new hardware and software, eye tracking is increasingly being used in different domains of research, and especially for learning and instruction. This powerful methodology provides many possibilities, but also brings with it many challenges to the researchers, such as choosing the appropriate eye tracking measure from an increasing number of them or developing new ones.

This EARLI Advanced Study Colloquium (ASC) will bring together researchers from Educational Sciences working with eye tracking and Eye Tracking Methodologists to both exploit the possibilities and address the challenges jointly so that this technique can be effectively used to design, evaluate and improve education.

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**Topic themes**

The EARLI ASC 2012 will be organized around the following three topics. Each topic will be introduced by one presentation from the Educational Psychology community and one from the Eye Tracking Methodology community:

1. Expertise and expertise development in the professions: The case of visual expertise
   *This topic focuses on the methodology for coupling eye tracking and verbal data*

2. Information-problem solving: Connecting attentional and cognitive processes
   *This topic focuses on the methodology of measuring cognitive states, such as mental effort with eye tracking*

3. Adaptive learning technologies: Navigational, reading, and re-reading strategies
   *This topic focuses on the methodology of eye tracking data-analysis in navigational and reading strategies*

**Aim of the EARLI ASC 2012**

This EARLI advanced study colloquium brings together eye-tracking researchers from the Educational Sciences and the Computer Sciences to enable unique collaboration on common topics. A part of the symposium will be explicitly dedicated to developing joint multidisciplinary research studies. Depending on the success of these collaborations, the ASC 2012 organizing committee aims at jointly publishing the results stemming from these collaborations (e.g., in a special issue within an educational psychology journal).

**Dates and venue**

03-06 September 2012

**Centre for Learning Sciences and Technologies (CELSTEC)**
**Open University of the Netherlands**
Valkenburgerweg 177
6419 AT Heerlen
The Netherlands

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**Organizing Committee**

Dr. Halszka Jarodzka, Open University of the Netherlands, The Netherlands
Kim Dirkx MSc, Open University of the Netherlands, The Netherlands
Prof. Paul A. Kirschner, Open University of the Netherlands, The Netherlands
Dr. Richard C. Dewhurst, Lund University, Sweden
Prof. Kenneth Holmqvist, Lund University, Sweden

**Applications to Participate in ASC 2012**

Scholars currently conducting research on learning and instruction with the use of eye tracking are invited to apply for participation in the colloquium. Participation is limited to 12 participants in total. Each senior scholar should consider bringing one junior researcher (pre- or post-doc).

Applications should include the following information:

• Name and affiliation of the researcher(s)

• A description of an ongoing research project and/or an approved proposal for research and its relation to the aims of the ASC as described above

• A statement describing how attendance at the colloquium will support the ongoing theoretical and methodological development of the researcher(s), especially junior colleagues, and contribute to the goals of the ASC

• A single representative publication or conference paper stemming from the research project, if available

This ASC requires no fee for participation. Transportation costs to a maximum of €250 will be covered, as well as lunches, dinners, and a small social event. Hotel costs and remaining travel costs must be covered by the participants.

Please send application materials and/or any questions you may have to:

**Dr. Halszka Jarodzka**
**Assistant Professor**

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**THE DEADLINE FOR APPLICATIONS IS 15 MAY, 2012**

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