Doctoraatsverdediging David Henderickx 22/6 om 17u

De doctoraatsverdediging van David Henderickx zal doorgaan op woensdag 22 juni, om 17u in de promotiezaal aan de Vrije Universiteit Brussel (lokaal D2.01, Campus Oefenplein Etterbeek). De titel van het proefschrift is “Endogenous and exogenous visual attention: the interaction between bottom-up and top-down mechanisms”.

Graag een seintje als u aanwezig zal zijn op de verdediging naar david.henderickx@vub.ac.be.

Abstract:

The studies in this dissertation contribute to the further development of models of visual selective attention. After a comprehensive introduction in visual attention in chapter one, the current dissertation presents several studies exploring the interactions between bottom-up and top-down attentional processes in visual orienting. In chapter two, a first experimental study examined to what extent attention driven by external stimuli (exogenous attention) and attention guided by a person's own volition (endogenous attention) share the processes responsible for feature binding in visual perception. The study in chapter three focuses on the attentional phenomenon of ‘Inhibition of Return’ (IOR), which has often been found with exogenous attention, and usually not with endogenous orienting. With the introduction of an ‘endogenous split-cue’ paradigm, the results of the study support the claim that no IOR is found with endogenous cues, because no bottom-up saliency-based orienting processes are involved in most endogenous attention studies. In a third chapter, the susceptibility of the bottom-up attentional phenomenon IOR for top-down strategic modulation is explored in both easy and more demanding perceptual tasks. In a fourth and fifth chapter, the conclusions from the current experimental research, each approaching the interaction between top-down and bottom-up attentional processes from a different angle, were combined and integrated into some of the leading frameworks of visual selective attention. Ultimately, an adapted two-component attentional framework is presented, that will also serve as a basis for the development of a computational vision system for the humanoid “Probo” in a parallel interdisciplinary research project at the VUB.

Curriculum Vitae

David Henderickx was born in Herentals, Belgium, on the 23rd of November in 1980. After graduating in high school in 1998 at the Sint-Jozefscollege in Herentals, he went to the KU Leuven to study Psychology. Soon it became clear that he was mainly interested in cognitive psychological research of the human mind. Accordingly, it was not surprising that he chose Experimental Psychology as his major, with Cognitive Psychology and Psycholinguistics as his mainstreams. To preserve a connection with the applied side of psychology, all main courses of Work and Organization Psychology were added to his teaching program, next to a few courses from Clinical, Animal, and Sexual Psychology. In the year 2000, David’s interest in scientific research was extended after his choice of investigating the attentional phenomenon Change Blindness for following three years in order to write his master thesis, under the supervision of Prof. Dr. Karl Verfaillie. After an overlapping 9 months internship at the KU Leuven about the prosodic activation during reading, and under supervision of Prof. Dr. Géry van Outryve d’Ydewalle, David graduated as a Master in Psychology in 2003. Early 2004, he started his scientific adventure at the Vrije Universiteit Brussel (VUB) as a junior researcher under the supervision of Prof. Dr. Eric Soetens. The current doctoral dissertation is the results of this work. During his time at the VUB, he was responsible for teaching several theoretical topics, as well as lab classes. At the moment, David is still conducting scientific research and collaborates with the Department of Engineering to develop a social robot. In particular, his task is constructing a human-like attentional model for the robot, and designing experiments to validate and improve several social functions of the humanoid. David is author of several book chapters and scientific papers in cognitive psychology and computer vision.
Committee members:

Prof. dr. Adrian von Mühlénen University of Warwick, United Kingdom – Department of Psychology
Prof. dr. Christian Olivers Vrije Universiteit Amsterdam, Nederland – Faculteit der Psychologie en Pedagogiek
Prof. dr. Iring Koch RWTH Aachen University, Germany - Institute of Psychology
Prof. dr. Hichem Sahli VUB – Faculteit Wetenschappen en Bio-ingenieurswetenschappen (ETRO)
Prof. dr. Natacha Deroost VUB – Faculteit Psychologie en Educatiewetenschappen (EXTO)
Prof. dr. Frank Van Overwalle (president) VUB – Faculteit Psychologie en Educatiewetenschappen (EXTO)
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