



Circular 104:17

Date: 3rd August 2017

Subject: Lifeguard related PhD Opportunity

Attention: All club members

Description: Why experienced lifeguards are so good at hazard detection

Circulars are available at: <http://lifesaving.org.nz/lifesaving/lifesaving-operations-circulars/>

Why experienced lifeguards are so good at hazard detection: What can the brain tell us?

The University of Chichester in collaboration with King's College London are currently recruiting a PhD student to conduct a series of studies investigating whether there are differences in the brains of experienced and less-experienced lifeguards. Previous research has shown that experienced lifeguards were better at drowning detection (Page, Bates, Long, Dawes, & Tipton, 2011) and hazard detection (Smith, Long, Dawes, & Tipton, under review) than less experienced lifeguards. However, the differences in hazard detection were not underpinned by systematic differences in visual search. Furthermore, even when beach-specific information was removed (i.e., using simulations of heads bobbing in water), eliminating the need for context specific knowledge, experienced lifeguards were still better at detecting the drowning individuals. Therefore, this programme of research aims to examine the mechanisms that underpin the expertise of lifeguards in relation to, but not limited to: personality, information processing, contrast sensitivity function in the peripheral field, and visual search. It is envisaged that once the offline mechanisms that determine expertise are identified, an fMRI study will be conducted to examine brain volume, brain function (volume of oxygen being used at specific sites) and brain pathway connectivity (water diffusion) differences between experienced lifeguards and a group of matched controls. Furthermore, an eye tracker synchronised with the MRI will enable the identification of attentional strategies relative to brain function and connectivity. Once this programme of research is completed, we will be able to identify whether expertise in lifeguarding is underpinned by differences in psychological and brain-related variables. Such findings will enable identification of predictors of expertise. We would therefore like to recruit an individual with expertise in neuroimaging as well as an interest in psychology.

The successful candidate will be jointly supervised by of Dr Jenny Smith (Senior Lecturer in Sport and

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Exercise Psychology (Skill Acquisition) and Visiting Researcher at King's College London, tel: 07813 957 307, e-mail: jenny.smith@chi.ac.uk, Professor Steven Williams (Head of Neuroimaging Department and Professor of Imaging Sciences at Kings College London) and Dr Marcus Smith (Reader and Principal Lecturer in Sport and Exercise Physiology).

For more information visit;

<https://www.findaphd.com/search/ProjectDetails.aspx?PJID=88089&LID=297>

Adam Wooler
Operations Manager

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