



Centre for Research in Applied Cognition,
Knowledge, Learning and Emotion
(CRACKLE)

RESEARCH SPOTLIGHT APRIL 2015

From the Laboratory to the Cockpit to the Fireground and back to the Laboratory again: CRACKLE Celebrates the research model of Dr. Graham Edgar

CRACKLE research has the powerful quality of being able to blend and align real-world, applied research with laboratory research into associated psychological processes. This attribute is very clearly demonstrated in the research history and approach of **Dr. Graham Edgar** (BSc. (York), Ph.D. (Keele), PGCFHE, C.Psychol., C. Scientist) Reader in Psychology and co-manager of CRACKLE. Graham began his research career with a doctoral project on the effects of Multiple Sclerosis on visual perception, a project that set the pattern for his future work by blending both rigorous psychophysical science and real-world issues. His work as Principal Scientist at BAe Systems Sowerby Advanced Technology Centre continued this approach with a focus on modelling and measuring “Situation Awareness” in cockpit and pilot head-up displays. This work again was soundly based in thorough laboratory research in human vision and cognition but had a clear real-world application in terms of air safety. The techniques and approaches he developed at BAe have been further adapted in his research at CRACKLE to advance understanding of how the human brain handles situation awareness across a wide range of natural contexts including medical, military, sporting and on the fireground. Again this work follows the pattern of being able to successfully combine laboratory and real-world research activity.

He has been successful with CRACKLE colleagues in securing funding for this CRACKLE research, notably a grant of £247,000 from the MoD’s ‘Competition of Ideas’ to explore brain activity linked to losing situation awareness (as in “friendly fire” incidents) and recently a large Erasmus Plus grant for a project on fireground situation awareness and decision-making in collaboration with Fire and Rescue Services in Gloucestershire, Belgium, Denmark, Netherlands and Poland. Graham’s research approach has been especially valuable in his supervision of CRACKLE postgraduate projects which have adopted the same blend of real-world and laboratory methods across a range of areas. Testimony to the value of Graham’s research is his strong and consistent record of publication and conference presentation (being one of the research team to win two fire-related research prizes and the Emerald Publishing Literati prize for a journal paper on the fireground research) and his consultancy history requiring ability to apply psychological knowledge to real-world behaviour.

CRACKLE celebrates Graham’s research approach as an invaluable model for conducting meaningful real-world research that is soundly grounded in rigorous psychological science.

