

Duncan Stewart Case study

Though Dr Duncan Stewart completed his PhD on geochemistry and applied palaeobiology, he was always interested in a career in the armed forces. It is no surprise that he now works for the Defence, Science & Technology Laboratory (Dstl) – an organisation renowned for combining science with military expertise.



Duncan Stewart, part of the ODP Leg 194 paleo team (2nd from right)

Duncan developed both his science and military experience throughout his early career. His PhD, *“The Palaeobiology of Globorotaliid Planktonic Foraminifera and Miocene Climate Change”*, allowed him to develop a wealth of scientific knowledge, specialising in micropalaeontology – the study of microscopic fossils – specifically those from the Cenozoic era. Afterwards he worked in the geo-environmental sector, consulting on large environmental remediation projects around Europe for several big-name companies (URS Corporation, CH2M Hill). In between these jobs, Duncan completed two tours as a Royal Marine Commando, in Iraq and Afghanistan. He began working for Dstl in 2009. His current position is as Principal Operational Analyst, managing a team working on a £6m *“Dismounted Soldier System”* research programme for Army HQ and several other stakeholders.



Ocean Drilling Program JOIDES Resolution Ship on which Duncan spent two months dating sediments using planktonic fossils.

Duncan studied for his PhD at Bristol University, which allowed him to participate in a two-month Ocean Drilling Programme (ODP) cruise on board the *JOIDES Resolution*. His research consisted of dating sediments obtained from drilling cores using the planktonic fossils within them. During this time he travelled from Townsville, Australia to Guam working as part of an international professional team. He also undertook fieldwork in remote areas of Tanzania, giving him access to perfectly-preserved samples. Duncan praised being given the opportunity to take part in this unique experience and says these experiences were essential in developing his ability to work

autonomously and adapt to unexpected situations.

Working at Dstl has given Duncan further opportunities to apply his scientific skills, although in a military setting, as Dstl needs scientists with a broad range of skills to carry out its military research. Rather than researching palaeobiology from a ship in the Pacific Ocean, Duncan now works on how to make combat troops more effective and improve their protective and load carriage equipment. Although the subject of his research has changed, the core techniques developed during his NERC PhD underpin all his work.

“Having a scientific background was invaluable as a soldier,” he explains, “when presented with a problem, I could analyse the situation and provide various solutions, albeit whilst in a completely different environment.” It is not uncommon for the military to employ scientists (several top level military figures have completed a PhD); they need minds that can view a problem and devise a sound method to deal with it – based on facts, logic and understanding. In an environment where rank displays your knowledge and experience, the prefix Doctor suggests you have different skills.



Corporal Stewart deployed on operations in Afghanistan in 2009

Duncan says his PhD studies gave him skills that are essential to succeeding in any career:

- Working autonomously: The ability to tackle complex problems and situations on your own is an invaluable skill, and also incredibly rewarding.
- Leadership: As well as knowing how to work alone, being able to lead a team is essential. Many academic and non-academic careers need candidates with good leadership qualities.
- Technical writing: Your best work during your PhD will probably be scrutinised by the academic community. You will develop the ability to write well and ensure your work is presented professionally. These are excellent skills to develop and take to non-academic organisations.

Duncan's example shows that a PhD is still beneficial, even if the sector or science you are working with changes. During a PhD you can develop skills and techniques that are invaluable to prospective employers.