Dstl careers: Steve, physicist and group leader

The Defence Science and Technology Laboratory (Dstl) is a world-leading defence and security organisation. It is also one of the UK's top STEM employers, which offers unrivalled opportunities in a vast number of disciplines and areas.

Steve is one of many physicists working alongside thousands of experts delivering often live-saving science for the armed forces as well as providing key innovations and protective measures to support UK security. Steve's scientific career began at the NHS after graduating with a BSc in Physics and Medical Physics.

> To be honest, I wasn't really ready to join the world of work, so I returned full time to university and undertook a PhD at the University of Sheffield looking at experimental validation of computational fluid dynamics models that predict growth of arterial stenotic occlusions – blockages in your arteries.
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> I received my doctorate in 2005, and immediately took on a role as a research assistant in the University of Leicester, researching the comparative accuracy of measuring blood pressure directly in the aorta versus measurement at the fingertip.

Steve began his career within CBR (Chemical, Biological and Radiological) Division at Dstl Alverstoke, which led him into a role specialising in medical physics.

As a health physicist and medical physics expert (MPE) for the Dstl Radiation Protection Advisory (RPA) body, he also became the Project Technical Authority to the Joint Medical Command project; in this role he advised on patient safety of a project looking at medical imagery with computerised tomography (CT) scanners, which use X-rays and a computer generated images of the inside of the body.

It is these projects which saw Steve travel to a number of non-operational and operational areas with the British Armed Forces, including the Falkland Islands, Gibraltar, Naples and Afghanistan.

One of the twin CT scanner suites in Camp Bastion

> Supporting the installation of vital CT scanners in Camp Bastion during the Afghanistan conflict was a career highlight. Being able to support operations with my medical and scientific experience

> during this difficult time was very challenging, but ultimately rewarding.
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> My support initially comprised remotely advising and supporting the construction team, followed by a visit to the facility to undertake radiation safety and imaging performance testing.
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> Travelling to and from Afghanistan was an experience, too; we sat at Kandahar airport (outside temp 46°C) in a non-air conditioned plane, in full body armour and helmet for the best part of an hour – I was so hot even my knee caps were sweating.
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> However, it was all worth it, our work was recognised on national TV, and whilst I personally was a very small cog in a big machine, it was hugely satisfying – and most importantly our work absolutely saved countless lives.

The career opportunities within Dstl means employees have the flexibility to work in other areas beyond their initial role. There are also opportunities to develop leadership skills, something Steve has taken advantage of.

> I have always enjoyed leading and developing people, a passion that I developed during my time as a research assistant. As a result, I chose to explore a management route, and became a Team Leader within CBR Division, leading the team responsible for undertaking radiological surveys on behalf of the MOD.

Adding the leadership string to his bow, Steve was able to transfer to others areas of work, moving from CBR work to a team leader role in Platform Systems Division (PLSD). ‘Platforms’, as the Division is known, looks at the science and engineering of military hardware, which is nofrontolint Steve’s academic background.

> Being a physicist gave me the flexibility to work in other areas. Understanding physics means that you can understand the very basis of why things happen, allowing you to communicate effectively and meaningfully with a wide range of colleagues, especially engineers who are, after, practically applying physics. I don’t profess to be their equal in their field, but when they tell me about something, I believe that the synergies between physics and engineering lets me understand them quite rapidly.

It has been quite a journey for Steve, who has now reached the role of Group Leader for the Land Platforms Group, illustrating that promotion opportunities are available to all who come and work at Dstl.

Steve daintily exits a tank at The Tank Museum during the Land Platforms

Group 2019 away day.

> I enjoy everything I do at Dstl and I would ask anyone joining us to explore the many areas of work. We do loads of cool stuff, so get involved; you may love what you do now, but I promise you there will be a hundred other things that you will enjoy just as much.

Dstl careers: from art to engineering

Dstl carries out a wide range of work which leads to opportunities in multiple areas, offering those who choose employment with the organisation a variety of different career paths. Other benefits includes flexible working hours and working from home options, as well as the opportunity to travel both within the UK and around the world.

Louise is a full time apprentice working as an electronics engineer with the Electronic Warfare Technology and Enterprise (EWTE) area of Dstl, and begins her degree apprenticeship in September 2021.

With a background in the arts, Louise explains her path to Dstl:

> I came to Dstl after moving to Andover for my husband's job. I had recently graduated from Hereford College of Arts with a degree in Artist Blacksmithing from the University of Wales. I didn't want to work under another blacksmith after graduating and it was too expensive to set up my own company. As I was (at the time) 26, I felt I should find a career instead of a job.

After deciding on an apprenticeship as her route to a career, Louise saw a job advert for electrical and mechanical apprentices at Dstl. Although she applied for the mechanical pathway originally, as it was related to blacksmithing, she opted for the electrical option instead.

> I was put on a three month placement within the Cyber and Information Systems in the EWTE group and just never left. I ended up being offered a permanent role and to do a degree in Electronic Engineering.

Dstl has a huge mix of experts with unlimited technical knowledge which is shared generously with new employees. Much of the work carried out at Dstl cannot be done anywhere else in the UK. We work closely with the armed forces

and as Louise explains, “We occasionally get to have a go with their toys.”

On trial with the Royal Tank Regiment at Copehill Down Training Village on Salisbury Plain.

> The most exciting thing that I have been a part of was going out on a trial with the Royal Tank Regiment on Salisbury Plain. We had made a piece of kit that would pretend to be a Challenger 2 Main Battle Tank and so it was great to be able to get out with the troops and try it out.
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> The work was hard going at times, but ultimately it was a great experience to get properly covered in mud and see our tech being used in the field.

Dstl has an impressive culture of learning and developing its people with opportunities to train, do a degree, and move to other areas of work, not least the chance to lead and gain promotion.

Dstl careers: Louise, scientist

The science for defence and security starts at Dstl with hundreds of projects underway in a myriad of areas, including important innovations for the British armed forces on land, sea and air. Dstl’s world-leading experts also work in areas to support UK security, policing and counter-terrorism.

Louise Bonati is a scientist who works in a small specialised project team. Their work seeks to strengthen existing position, navigation, and timing methods, through the evaluation of related equipment by conducting practical trials and data analysis. For example, their work includes adding to the resilience of GPS availability and seeking out alternative navigation methods to complement GPS.

> Our team researches alternative position, navigation, and timing methods, similarly evaluating their effectiveness, but also to explore alternatives for satellite navigation.
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> This information is fed forward, to allow a continual understanding to be achieved across MOD and Dstl about the requirements and how the information shapes the future focus of the work.

Louise completed a BSc degree in Psychology in 2018 and graduated in the

September, heavily pregnant with her daughter. She spent the next 2 years (and another child later, a son this time) researching the careers where she could apply her newly acquired skills.

> I have always had an interest in the Defence and Science area, as my Father worked in in Defence also. When I saw Dstl's graduate roles advertised, I knew my degree could be transferred to any role, I just needed to approach Dstl to check if this was possible.
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> The response was really encouraging, so I applied for every graduate role advertised and I was hugely fortunate to be considered for an interview for my current role. I had the most comfortable and encouraging interview and was thrilled to be offered a Graduate Scientist position.

Many employees at Dstl say they value how supportive and encouraging the organisation is, its work life balance and the priority it gives to supporting equality and diversity.

> Dstl has made me feel valued, encouraging me to carve out a career that is focused around what I enjoy and want to engage in, whilst allowing me to work flexibly, which still gives me time to nurture my family as well as work fulltime.
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> I love the people I have encountered, the support, the diversity of knowledge and skills, the better understanding I am gaining of the military, the variety of work, the comprehensive training, and the fact that my role allows me to learn every single day. I feel enormous gratitude to able to work for an organisation that facilitates such job satisfaction.

More recently Louise took to the air with the RAF, on board a Hercules transport aircraft, to gather vital data linked to GPS. Flying to the Hebrides off the west coast of Scotland the task was to investigate the impact on GPS jamming signals and how science could mitigate this.

> This was a hugely exciting day and I felt very grateful for the opportunity to experience a live experiment, but also gain an understanding of a typical flying day with the RAF.
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> I was able to ask questions directly to the crew to gain further knowledge about the RAF, the life and training of a pilot, and how the work of Dstl directly affects and impacts their work.
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> The RAF were hugely welcoming and accommodating. We experienced flying with the tail-ramp of the plane down as we flew at low level over the sea, safely harnessed to the plane. We sat at the very end of the ramp and took in the view.

> It was an incredible event and one I shall never forget for the whole of my life.

Dstl is a workplace that facilitates building a career and allows for individuals to change direction and to other areas of science.

> However small your contribution, you are still an integral part of the team and Dstl.
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> There are many more reasons that I would recommend Dstl, such as its fantastic ongoing training and development opportunities, and the fact that your work can be very varied.
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> The diversity of skills means there are always new ideas from a different perspective and the opportunity to learn from others, and the opportunity to form cohesive working relationships across Dstl and other organisations to achieve a shared goal.

ASEAN-UK joint event highlights nature's key role in climate action ahead of COP15 and COP26

On 8 June, the UK COP26 Presidency and the ASEAN Centre for Biodiversity (ACB) co-convened ASEAN-UK COP26: Framing the Future for Nature and Climate, a virtual event exploring the important role that ecosystems, like forests, wetlands, and marine and coastal areas, play in combatting climate change.

The event explored best practices and experiences from across the ASEAN region, and discussed the need to scale up ambition on nature-based solutions on climate and biodiversity. The event also showcased the findings of the Dasgupta Review on the Economics of Biodiversity, and the applicability of its findings to the ASEAN region.

The event was also an opportunity to bring the region together in preparation for the upcoming regional and global meetings, including the Third ASEAN Conference on Biodiversity, the 15th Conference of Parties to the Convention on Biological Diversity and the 26th Conference of the Parties (COP26) to the United Nations Framework Convention on Climate Change (UNFCCC), all taking place this year, with the UK presiding over COP26, in partnership with Italy

The event drew over 500 participants, who were welcomed with a video message from renowned naturalist Sir David Attenborough, produced specifically for South East Asia. Deputy Secretary-General (DSG) for the ASEAN Socio-Cultural

Community Kung Phoak, UK Ambassador to the Philippines Daniel Pruce, and ACB Executive Director and COP 26 Climate Defender Dr Theresa Mundita Lim opened the event. “Nature-based solutions play a very significant role in addressing the root causes of climate change, for instance, the reduction of greenhouse gas emissions,” DSG Kung Phoak said.

Dr. Lim explained that while the ASEAN region is among the most vulnerable to climate change, solutions are within its reach due to its wealth of biological resources and diverse ecosystems.

> The integrity of these ecosystems contribute to adapting and mitigating strategies against the impacts of climate change – mangrove, peatland, and marine ecosystems help curb rising temperatures, avert disasters, and serve as carbon sinks as well.

Ambassador Pruce emphasised the need to scale up nature-based solutions in ASEAN to curb global warming and build resilience to climate impacts, through ending deforestation, and committing to protect 30% of global land and ocean by 2030.

“Nature-based solutions are vital in safeguarding our climate, air, water and way of life for future generations”, the UK Ambassador said, citing that nature is a priority under the UK’s Presidency of COP26. The event featured thematic sessions on protecting carbon sinks and nature’s role in climate adaptation, reducing emissions from unsustainable exploitation of nature in the region, and financing nature-based solutions

The event also featured a special fireside chat between Professor Sir Partha Dasgupta and Demetrio L. Ignacio (Former ASOEN Chair of the Philippines), where Professor Dasgupta advised ASEAN policymakers on applying the findings of the Dasgupta Review on the Economics of Biodiversity in an ASEAN context.

Representatives from Cambodia, Indonesia, the Philippines, Singapore and Viet Nam shared reflections on the event, and showcased national action that they are taking in applying and scaling nature-based solutions.

The event closed with reflections from Mika Tan, Coordinator of the ASEAN Youth Biodiversity Programme; Dr. Nor Imtihan binti Haji Abdul Razak, Permanent Secretary, Ministry of Development, Brunei; and Ken O’Flaherty, COP26 Ambassador to Asia Pacific and South Asia.

The recorded livestream of the sessions can be accessed on the ACB’s YouTube page

PM to tell NATO leaders: Collective Security must be the foundation of pandemic recovery

- Prime Minister will travel to Brussels today for the first meeting of NATO leaders since 2019
- Discussions expected to focus on Russia, Afghanistan and strengthening NATO for the future
- UK's Integrated Review made huge commitment to NATO, including record increase in defence spending

The Prime Minister will travel to Brussels today (Monday) for a NATO Summit. The meeting is the first between leaders of the Alliance since the beginning of the coronavirus pandemic and the election of President Biden.

Earlier this year the UK published a wholescale review of our foreign, defence and security policy. The Integrated Review demonstrated our unwavering commitment to Euro-Atlantic security and the NATO alliance, underpinned by a £24.1 billion investment in the UK's defence capability.

Today the Prime Minister will tell fellow leaders that the global recovery from coronavirus must be underpinned by our shared security. The pandemic has been exacerbated by attacks on that security, both directly through hostile actors carrying out cyber-attacks on allies' health systems, and indirectly through the devastating impact instability and conflict can have on countries' ability to cope with health crises.

The coronavirus pandemic has therefore reinforced the value of NATO and allies must redouble their commitment for the alliance and ensure it adapts to meet the challenges of the future.

The Prime Minister will use his intervention at the Summit to support the NATO Secretary General Jens Stoltenberg's work on modernising the Alliance. He will say that NATO has an obligation to invest in research and development so we can face down the challenges of the future, including cyber threats and the impact of climate change on the global system.

He will underline his strong support for all the elements of the NATO 2030 modernisation initiative, including stronger deterrence and security, a reinforcement of Allies' shared values, a renewed focus on resilience and innovation, and new policies on climate security, cyber defence and preventing sexual violence in conflict.

The UK is Europe's leading contributor to NATO and is equipping the alliance with next-generation capabilities. This includes the commitment of cyber capability to NATO and the deployment of the Carrier Strike Group, which is currently participating in exercises in the Mediterranean alongside Allies as part of a NATO taskforce before sailing to the Indo-Pacific.

The Prime Minister said:

> NATO is not just important to the UK’s security, it is our security.
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> NATO owes it to the billion people we keep safe every day to continually adapt and evolve to meet new challenges and face down emerging threats. This will ensure NATO is still the bedrock of global defence for generations to come.
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> As we recover from the global devastation wreaked by the coronavirus pandemic we need to do so with secure foundations. The peace and stability brought by NATO has underpinned global prosperity for over 70 years, and I have every confidence it will continue to do so now.

During their Summit today, Allies are expected to discuss the drawdown of troops from Afghanistan and the new chapter in NATO’s relationship with the country. The Prime Minister will pay tribute to the 150,000 British troops who served in Afghanistan and emphasise the UK’s commitment to support the Government of Afghanistan, including in its efforts to counter terrorism, through all of our diplomatic, development and defence work.

The Prime Minister will also outline the need for NATO to look beyond the Euro Atlantic to address challenges further afield, including in the Indo-Pacific.