Top US Space Force scientist visits Dstl

Press release

Dr Joel Mozer and his team met Defence Science and Technology Laboratory staff and toured the HERMES satellite ground control station at Portsdown West.

Dr Mozer is the Chief Scientist and Director Science, Technology and Research for the US Space Force (USSF). The visit on 8 September 2022 was his first to the UK's Ministry of Defence since taking up his role in 2019.

Dr Mozer develops long-term military requirements for the Space Force and interacts with other international communities to address cross-organisational science and technical issues

During the visit – which was hosted by Athos Ritsperis, Dstl's Deputy Space Systems Programme Manager for Science and Technology and Professor Richard Allington from the Defence Science and Technology Futures Programme – Dr Mozer and his team were provided with an overview of both programmes and introduced to senior technical staff from Dstl and UK Space Command.

Dstl's Athos Ritsperis said:

> This was a hugely important visit which included discussions on joint academic engagement and potential exchanges of both technical and Project Delivery staff. As part of the visit we showed our visitors the Dstl HERMES satellite ground control station, which is getting ready to manage its first Dstl Mission, due to launch from Spaceport Cornwall later this year.

Dr Mozer said:

> I very much enjoyed my visit and feel that we have a very strong potential to collaborate on many fronts. I look forward to further engagements with with Dstl.

The space environment is an area of growing importance for defence science and technology. Opportunities for greater UK/US collaboration will enable vital knowledge-sharing including the application of futures techniques and a better understanding of trends, context and future science and technology possibilities.

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DASA seeks innovations to help develop the first generation of Directed Energy Weapons

News story

This new Innovation Focus Area aims to find novel ideas that will shine a light on the future of Directed Energy Weapons across Land, Sea and Air domains

- DASA has launched an Innovation Focus Area called, Making Science Fiction a Reality: Future Directed Energy Weapons
- Funding provided by the Defence Science and Technology Laboratory (Dstl)
- £500k in overall funding available for proposals which present ideas to contribute to the first generation of deployed Directed Energy Weapons

The Defence and Security Accelerator (DASA) is pleased to launch an Innovation Focus Area (IFA) called Making Science Fiction a Reality: Future Directed Energy Weapons. This IFA is seeking innovations that will help contribute to the development of the first generation of deployed Directed

Energy Weapons across Land, Sea and Air domains.

This IFA is run on behalf of the Defence Science and Technology Laboratory (Dstl).

Funding

£500k in overall funding is available for this IFA, with £50k-£200k expected to fund each proposal.

Do you have an innovation which could help develop the first generation of Directed Energy Weapons? Read the full IFA and submit your proposal.

Developing the first generation of Directed Energy Weapons

Directed Energy Weapons (DEW) are systems capable of discrete target selection that emit laser or Radio Frequency (RF) energy as the primary means to cause disruptive, damaging or destructive effects on equipment or facilities.

The vision of the UK Ministry of Defence (MOD) is to make Directed Energy Weapons a realistic choice for our armed forces, which can contribute to a decisive edge and sustain strategic advantage.

This IFA seeks proposals that enhance the performance and/or reduce the size, mass and volume of the system and subsystem areas associated with laser and RF Directed Energy Weapons. For example, innovations that improve:

- laser and RF Source technology
- system automation
- advanced power and cooling technologies that can be ultimately integrated onto military platforms
- beam control
- target detection
- battle Damage indication
- test and evaluation

For more on the competition scope, read the full IFA document.

Submit a proposal

Do you have a solution or novel approach that may help Dstl and DE&S understand the next steps to develop and introduce Directed Energy Weapons into service across Land, Sea and Air domains?

Read the full competition document to learn more and submit a proposal.

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Our next big construction site, the Replacement Analytical Project

News story

One of our largest and most important infrastructure projects reaches its next phase.

The project team at the new construction village on the Sellafield site.

Construction work has started on the Replacement Analytical Project (RAP) at Sellafield – which will be the new home for laboratories that analyse materials from across the Sellafield site.

This is the first stage of significant site works at the National Nuclear Laboratory's Central Laboratory facility on the Sellafield site.

A new construction village has been put in place outside of the facility to support the incoming project teams that will work on this major infrastructure project.

RAP's head of project Alan Bladon said:

> Hundreds of people work on both the engineering design and construction of this major project and to see physical site works begin is something they can be very proud of. It takes a huge collaborative effort to deliver infrastructure projects of this scale and years of complex planning to get to this point.
>
> This is a critical project to ensure the continued safe and compliant delivery of Sellafield's purpose and for construction works to commence gives great confidence in the successful delivery of the project over the next eight years.

The project is being delivered by the Programme Project Partners (PPP) at Sellafield and will equip the facility with the modern tools and laboratories to analyse samples of materials from across the site. It's doing this by adapting and building on the existing capability.

The PPP infrastructure delivery model was mobilised in 2019 with the purpose of transforming major project delivery at the Sellafield nuclear site.

Over the next 6 months, parts of the central laboratory will be stripped out completely to make way for the first step towards installation of a new Special Nuclear Materials (SNM) analytical services laboratory, this will be one of three new capabilities to be put in place.

The project will see completed installation of new laboratories and state of the art equipment by 2029.

Programme and Project Partners

The partnership brings together:

- KBR
- Jacobs
- Morgan Sindall Infrastructure
- Doosan
- Sellafield Ltd and a wider supply chain

And will deliver a 20-year pipeline of major infrastructure projects, each of these projects play a vital role in ensuring Sellafield can safely empty ponds and silos, manage the waste and store it safely for decades to come.

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UN Human Rights Council 51: UK statement for the Item 4 General Debate

Thank you, Mr President,

The former High Commissioner's report found that possible crimes against humanity have taken place in Xinjiang, China. It found evidence that Muslim women are being forcibly sterilised. That Uyghurs are not allowed to practice their religion or speak their own language. That people are being detained and tortured– merely because they belong to a minority group. We cannot ignore such severe and systematic breaches of

human rights. This Council must not, cannot, stay silent.

We have oft spoken in this Chamber of Putin's flouting of international law through his military aggression against Ukraine.

The sham referendums currently being held in Ukraine can have neither legal effect nor legitimacy. Russia can't change the borders of another sovereign state. It's a clear breach of the UN Charter.

We have also repeatedly heard the harrowing reports of Russia's violations of human rights in Ukraine, including of those subjected to Russia's so-called filtration operations. Aggression overseas is accompanied by repression at home as those brave Russians who dare to speak out against Putin's war are detained in their thousands.

Mr President,

The death of Mahsa Amini in Iran, following her arrest, has shocked the world. We call on Iran to carry out independent, transparent investigations into her death and the excessive violence used against subsequent protests.

In Ethiopia it is crucial that the truce is reinstated and that peace talks begin to avoid a repeat of the atrocities including extrajudicial killings and sexual violence seen earlier in this conflict.

Finally, ahead of COP 27 – we urge Egypt to ensure that independent civil society, human rights defenders, and the media can operate freely. The success of the conference – as we saw in Glasgow – depends on vibrant civil society participation.

Thank you

DASA is searching over the horizon for generation-after-next beyond line of sight communication technologies

News story

This new Innovation Focus Area seeks novel beyond line of sight (BLOS) communication technologies

- DASA has launched an Innovation Focus Area called Beyond Line of Sight Communications
- Funding provided by the Defence Science and Technology Laboratory (Dstl)
- Funding available for Generation-After-Next (GAN) proposals, which explore and develop new / novel beyond line of sight (BLOS) communications technologies

The Defence and Security Accelerator (DASA) is pleased to launch an Innovation Focus Area (IFA) called Beyond Line of Sight Communications. This IFA seeks innovations that will help contribute to the development of Generation-After-Next beyond line of sight communication options.

This IFA is run on behalf of the Defence Science and Technology Laboratory (Dstl).

Do you have an innovation which could help develop Generation-After-Next beyond line of sight communication options?

Read the full IFA and submit your proposal.

The need for novel and efficient beyond line of sight communications

Defence relies heavily on the mature BLOS communication technologies, such as military High Frequency (HF), troposcatter or satellite communications. However, to maintain robust communications in highly disruptive, congested and contested environments, it is vital that military communications change conventional assumptions about BLOS capability.

It is crucial to build a pipeline of future BLOS technologies and have a diverse repertoire of communication approaches to overcome any potential threat and ensure that if one form of communications is denied, there are alternatives available.

This IFA is seeks GAN proposals that explore and develop new / novel BLOS communication options, and alternatives to traditional methods of military that may provide advantage in highly disruptive threat environments. For example:

- BLOS system development
- approaches to understand the “Channel”

- signal processing for new approaches to BLOS communications
- waveforms
- solution hardware development

Submit a proposal

Do you have a solution or novel approach that may help Dstl understand what lies ahead for GAN BLOS technologies?

Read the full competition document to learn more and submit a proposal.

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