

## News story: The Long View – a lifetime of work in optronics is recognised in annual award

Richard Hollins Senior Fellow, Cyber & Information Systems Department at the Defence Science and Technology Laboratory (Dstl), has been recognised for his outstanding contribution to optronics.

At a special award ceremony earlier this month, Dr Hollins was presented with the lifetime achievement award from OPTRO – the international symposium on optronics for defence and security – which recognises a significant contribution in the field of optronics.

Optronics covers all the technologies that use light for information and processing – it includes lasers, detectors, cameras, sensors, optical communications.

Richard brought new insights to the search for protection measures against lasers of any wavelength – a requirement which becomes ever more important as the variety of available laser wavelengths continues to increase. Some of his work has contributed to the revision of international laser safety standards, which control the use of lasers in laboratories around the world.

It was the senior fellow's work in this and other areas which have contributed to innovation in optronics over several decades. Optronics provides what the eye can't see; imagery at a longer range than the eye can master, thermal images, infrared, radar, even camera images from low level light like star light – all vital for gathering information about an area or accurately identifying a target.

Richard said:

I'm very pleased to have the recognition of my career – I certainly didn't expect to get it – I expect I'll be retiring soon and I don't know how many more chances I'd have for an award like that. I've been fortunate to work with many colleagues at Dstl, in industry and academia, and in foreign government organisations, and I'm grateful for all their contributions to the work.

Things have changed a huge amount – in the days when I started, lasers were inefficient, we were trying to develop them into things that we could use, but they've needed to change considerably to the efficient compact devices we know today. I used to have to build 50,000 volt power supplies and today's devices use 10 volts or less. Lasers have found their way into many much smaller devices. Cameras themselves have also become much better and smaller – I

have recollections of when you saw a TV camera or a thermal imager, it was a big thing with scanning optics that had to be wheeled around, and today all that complexity has been replaced by a small hand-held camera, and costs have come down.

The future of optronics continues to evolve – as a communications channel, optics is starting to offer secure directional communications with much higher bandwidth to open up new possibilities. It's always been difficult communicating with submarines as most electromagnetic wavelengths don't go through sea water – but lasers are now sufficiently good that progress is being made in this direction. Richard is still actively involved in physics at Dstl.

He said:

I don't get into the lab much these days but I still inspire people as a mentor and help to work out how we should address new challenges. I take a lot of interest from understanding new scientific challenges through simple calculations. I produce simple theoretical models that are written on a few pieces of paper, and which relate the inputs to the outputs via the underpinning physics – and to me that's a really powerful way of understanding. More complex computer-based models can be useful too, but everybody should try my simple approach first.

Dstl provides opportunities for a career with plenty of challenge: providing the science and technology required for our security and defence. We can't do all the work internally, but we select and work with the best partners. Our own work must be of the highest standard in order to understand the problem, to define the requirement and identify solutions, to manage the work as it proceeds, and to evaluate the products. My own career has enabled me to find ways to harness new developments in electro-optic technology to meet new military challenges. My award demonstrates the respect with which Dstl science is viewed within the scientific community.

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## [News story: Identity requirements for property transactions](#)

In January we updated [Practice Guide 67](#), which explains who needs to confirm their identity for a property transaction and in which circumstances they need to do this.

The update focuses on how to complete the 'confirmation of identity panels' in our application forms and provides additional clarity where an attorney (someone legally appointed to act on someone else's behalf) is involved in a transaction.

The guide now clarifies that details for each party (for example the seller, buyer, and buyer's lender) must be listed in separate boxes in the identity sections of our application forms. See [section 5.1: Confirmation of identity](#) of the guide for full details.

This is important because it can help to reduce the risk of registration fraud and the need for additional enquiries. When customers list parties and attorneys separately, it helps to provide greater assurance that they are meeting our identity requirements; and getting applications right the first time can help to make conveyancing simpler, faster and cheaper for everyone.

When an attorney is dealing with a property we will usually need evidence of the attorney's identity too, unless an exception applies, as set out in [section 4.1. Exceptions](#) of the guide.

Attorneys are not disponors of property (for example, a seller), or disponees (for example a buyer) and therefore both the donor of a power (the person who has appointed the attorney) and their attorney are separate persons, for the purpose of our identity requirements. The attorney acts under powers given to them and must therefore be accounted for separately and listed in separate boxes in the identity sections of our application forms. If there is insufficient space to provide the information, customers can add additional boxes to the panel in the form or use [continuation form CS](#), to provide it.

In the past, we have received fraudulent powers with some applications, so we need evidence of the appointment and powers, to prove that the appointment is genuine.

In some cases, where both the donor and the attorney may be represented by the same conveyancer, they must be listed separately. The conveyancer acting for the applicant must satisfy themselves, and therefore their client, that they are dealing with the right people.

Find full details in [Evidence of identity: conveyancers \(PG 67\)](#).

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## [Press release: Government launches call for evidence for Civil Society Strategy](#)

Tracey Crouch, Minister for Sport and Civil Society, has today launched a

[public call for evidence](#) on a new strategy that will harnesses the power of communities, charities, and businesses to help build a fairer society.

### [Tracey Crouch welcome views on Civil Society strategy](#)

The [engagement exercise](#) for the Civil Society Strategy will look at four themes that will strengthen civil society further, exploring the best way sectors can work together, empowering people to take action on the issues that matter to them and improving the places they live and work in.

It is open for anyone to share their opinions, experiences and feedback over the next twelve weeks.

This work will build on the government's current work with young people and youth organisations, as well as efforts to grow social impact investing, tackle loneliness and build integrated communities.

Further to the online platform, the Department for Digital, Culture, Media and Sport will also hold events around the country where people will be invited to talk about civil society.

Tracey Crouch Minister for Sport and Civil Society said:

The civil society sector is incredible and works hard to deliver so much for people and communities. I want to bring these individuals and organisations together even more to improve communities and help tackle the everyday challenges that people face. The strategy will be important in our mission to build a fairer society and help secure a better future for the next generation. I encourage everyone with an interest in this important area to come forward and make their voices heard.

The Civil Society Strategy will be developed by the Department for Digital, Culture, Media and Sport, together with the Ministry of Housing, Communities and Local Government and other government departments.

Jake Berry, Minister for the Northern Powerhouse and Local Growth, said:

This strategy reaffirms our commitment to working alongside all sections of society to build a fairer future for all. This piece of work will shape how we work with communities and will encompass their views in order to create a society that works for everyone.

**ENDS**

### **NOTES TO EDITORS**

The online platform will be open for twelve weeks.

It is split into four sections: Our Civil Society, People, Partnerships and

Places. You can choose to just answer the questions that are relevant to you:

1. Our civil society: is about the big questions of what civil society is, how it is working well and what needs to change to strengthen it further
2. People: explores how more people could take action on issues that matter to them
3. Partnership: explores the best ways to work across different sectors to make a better society
4. Places: explores how we empower local people to improve the places they live and work

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## [News story: Drone rises to the challenge](#)

The lightweight RISER drone uses lasers to self-navigate deep inside hazardous facilities where GPS signals cannot reach, and has already been used successfully at Sellafield.

RISER carries a sophisticated radiation detection and mapping system which has been collecting vital information about conditions in the remaining Windscale Pile chimney. More than 60 years after the 1957 fire, the chimney remains highly contaminated.

Using remotely operated equipment is the only way to establish how the chimney can be cleaned out and finally dismantled.

RISER – Remote Intelligence Survey Equipment for Radiation – combines two separate pieces of cutting-edge technology: drones and radiation-mapping software. Each received Research and Development funding through the NDA and fellow government agency, Innovate UK.

In 2009, Createc's N-Visage™ radiation mapping software project was boosted during its critical early stages by a £50,000 investment from the NDA's R&D portfolio.

Three years later, the NDA joined other government organisations to invest further funds in a wide range of innovative nuclear projects. This led to the collaboration between Cockermouth-based Createc and aerial systems specialist Blue Bear, from Bedford. After a series of on-site trials at Sellafield, RISER was put into decommissioning action.

In action at Sellafield

The NDA's Head of Technology, Prof Melanie Brownridge, said:

We are thrilled to see RISER put to work in Japan, and delighted

that our early-stage support for the N-Visage system enabled Createc to develop its potential further.

The subsequent collaboration with Blue Bear, again funded by the NDA through an initiative with Innovate UK, led to RISER. This shows the importance of funding innovative ideas through their journey from the drawing board to the market – not just for the NDA's decommissioning mission but for the wider UK and overseas economy.

The N-Visage™ tailor-made technology maps radiation with pinpoint accuracy, producing a high-definition 3D picture of contamination, quickly and safely. Developed and exhaustively tested over a number of years, it was first used inside one of the reactor buildings at Japan's Fukushima-Daiichi plant several years ago, and is now set to return, mounted on the drone. The system can be deployed through small openings, in tight spaces and high-dose environments. Dose to operators is reduced as the technology is remotely deployed.

The drone, or unmanned aerial vehicle (UAV), is less than one metre in diameter and navigates using its own internal 'collision avoidance' capability. Able to manoeuvre accurately inside complex industrial spaces, data is transmitted to the mapping system and clearly displayed, highlighting areas of contamination.

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## **[Press release: Planting the seeds for a flood resilient future](#)**

A Sunderland school is more prepared for flooding after a rain garden planter was installed and the school's pupils created a flood plan as part of the Environment Agency's 'Flood Weeks'.

Community Engagement Officer Taryn Al-Mashgari helped the youngsters at Springwell Village Primary School develop a flood plan and 'grab bag' so they are prepared in the event of a flood.

And partners at Northumbrian Water installed a rain planter – which captures and stores rainfall from the school's roof – as part of its Rainwise initiative.

Youngsters at the school helped put flowers into the planter in an event on Friday 23 February and then 'tagged' the school with a flood warden logo designed by a pupil from Hetton Lyons Primary School.

This was done using Rainworks – an invisible spray which will only show the

logo when it rains. It will remind pupils during key times to be aware of their flood resilience learning.

## **Initiative helps schools be prepared for flooding**

A workshop held by the Environment Agency, Northumbrian Water and Northern Powergrid then also took place for parents and local councillors to see what the children have been learning and to see them demonstrate their newly-created flood plan.

It's part of an Environment Agency initiative to help schools across the North East be better prepared for flooding. Taryn works with children in all year groups to help them understand different types of flooding and how it happens.

They learn what to do before and during a flood, and what the flood warning symbols used by the Environment Agency mean. Taryn said:

It's important that younger people understand what flooding is, how it happens and what the different organisations that deal with flooding do.

We also teach them how to prepare for and what to do during a flood in a series of interactive sessions where they design their own flood protection and describe how they would keep their favourite possessions safe.

It's absolutely devastating to be flooded and that's why we are working with schools and our partners to educate our future generations about what they can do to keep themselves and their valuables safe.

## **Spreading the word about managing rainfall**

Northumbrian Water's Rainwise initiative aims to spread the word about how managing rainfall better can help increase capacity in the sewer network and encourages residents to make small changes around their homes and gardens.

Rain garden planters help reduce the risk of flooding by reducing the amount of water directly entering the sewer network, as well as slowing the amount of water that does.

Northumbrian Water's Project Manager, Chris Bond, said:

The Environment Agency's flood week gave us a real opportunity to work with the school to raise awareness of our Rainwise initiative and how it's important for families to manage rainfall better around their home to help reduce flood risk.

The planter captures rainwater from the roof of the school, which

is then absorbed by the soil and plants and helps to take some of the pressure off our sewer network. It's been great working with the children to put in these plants, which builds their knowledge of flooding and creating new natural habitats.

For more information on Rainwise, visit [Northumbrian Water's website](#)

The Environment Agency is urging people to 'Prepare, Act, Survive' by visiting the [Floods Destroy website](#) and do three things to prepare for flooding.

- check your postcode and find out if you are at risk of flooding
- sign-up for free flood warnings if you are at risk
- view and save the 3-point flood plan so you know how to 'Prepare, Act, Survive' in a flood