



Ministry
of Defence

de&s

Engineering Heroes

2021



Jo Osburn

DE&S Gender Champion



As DE&S Gender Champion I am delighted to be supporting International Women in Engineering Day 2021 and recognise the outstanding work of our female engineers. As I read the nominations I am amazed by the stories of creativity and innovation, technical excellence and sheer determination to find engineering solutions to some really wicked problems. I congratulate those nominated but would like to recognise all those engineers across DE&S who are working in multi-disciplinary teams seeking to deliver engineering excellence in support of our Armed Forces.

Being an engineer in DE&S offers an exciting opportunity to be at the forefront of working with our customers, industry partners and colleagues across Defence to introduce technical innovation and engineering excellence into our platforms, systems and equipment deployed in military operations across the globe. There is a wealth of evidence which demonstrates that greater gender diversity makes companies more successful, more adaptable, more productive and more responsive to what their customers and broader society needs. Much has been written about the need to address the under-representation of women in engineering; gender stereotypes, low rates of female engineering students and a lack of take up by girls of STEM subjects in schools are all factors that are contributing to the national shortage of engineering skills, and specifically women and girls entering the field.

DE&S is committed to ensuring we can overcome gender disparity, increase the rates of female engineers in the organisation and grow an inclusive engineering culture which enables everyone to reach their potential and we are committed to removing any barriers to recruitment, development and retention. The DE&S Diversity, Inclusion and Wellbeing Strategy identifies a number of activities that support the development of an inclusive culture, free from discrimination and the great work of the engineering networks and functions are playing an important role in creating a positive and supportive community. International Women in Engineering Day is a great opportunity to celebrate those women paving the way in engineering and I hope that their stories will act as an inspiration for others.

Jon Cook

Head of Engineering Function



The past 15 months have been unprecedented and challenging for us all. For International Women in Engineering Day, our Women in Engineering Network and the Engineering Function wanted to find a way to celebrate the high calibre of women in DE&S engineering roles.

We asked our Directors to nominate those women who have embodied the Civil Service charter, and who have gone above and beyond to support the engineering function, delivered outstanding projects, championed diversity and inclusion, and deserve recognition for their heroic attitudes all while constrained by COVID restrictions.

This publication is our way to recognise our very own DE&S Engineering Heroes – I hope it inspires us all and encourages more women to consider a career in engineering.

Mrs Kiki Mansbridge

Chemical, Biological,
Radiological and Nuclear
Engineer



Kiki joined DE&S in July 2019, leaving a position with Rolls Royce to join DE&S as a professional engineer. Kiki is deployed to support challenging safety critical projects within the Chemical, Biological, Radiological and Nuclear (CBRN) Physical Protection portfolio, which includes the General Service Respirator (GSR) and CBRN protective clothing systems.

Kiki always strives to deliver business improvements and is always alert to opportunities to identify and implement more effective and efficient means of delivering successful outcomes. This commitment extends to Kiki's approach to her own personal development, which she has focussed on learning about the tools and techniques considered to represent best practice for business improvement, and sharing this knowledge with her colleagues across Integrated Battlespace Operating Centre (IBOC) and DE&S.

Kiki is also passionate about promoting engineering and science as a profession amongst girls and boys in schools. Kiki has regularly provided informative and creative talks at local schools in Bristol, using her experiences through her own career and from her work in DE&S to generate interest and enthusiasm in science and technology and also in the business of Defence.

Kiki is a positive and enthusiastic member of the CBRN engineering team and IBOC Quality Community of Interest. She actively models the positive behaviours that all DE&S engineers should aspire to replicate, trying to adopt good practice wherever she finds it, digging into issues to understand and tackle the root causes and never letting set-backs distract her from the delivery of successful outcomes.

Accepting demanding personal objectives from the Front Line client, Sue has launched a programme of work across a broad front to improve maintenance data quality and coherence. Laying the foundations for lasting change she has mobilised activity to address the root causes of long standing issues such as flexible hose management that continue to detract platform availability and present safety risk.

She has deployed her deep mastery of the Royal Navy's Maintenance Management System (UMMS) becoming the vanguard of multiple support transformation initiatives that seek to exploit engineering maintenance and performance data to improve availability and reduce costs. A visionary, Sue is the powerhouse driving the digital agenda for Naval Engineering.

Cdr Sue Seagrave

Maintenance Management
Systems Group Leader



Jane Hand

Type 26 Global
Combat Ship, Safety
& Environmental
Approval Authority
Level 3



Few would argue that joining a new part of an organisation is challenging; but to do so during a national lockdown, and still achieve and exceed the expectations of the team is something rare indeed. But this is the calibre of Jane Hand.

Working from home throughout her first year, Jane's role as the Safety & Environmental Protection Manager for Type 26, a Category A Project, saw her lead on eight audits in twelve months, the population of the Team's Legislative & Regulatory database, and the authorship of a new Safety & Environmental Management Plan; the latter winning her praise and financial recognition. Supporting the wider function; Jane's a member of forums and superuser groups, and is preparing to take her third graduate/apprentice this year under her wing. If these weren't challenging enough, she's done it all while working a 3.5 day week, juggling the childcare and home-schooling needs of her four young children while her partner has been mobilised as a Royal Navy Reservist, and still managing to volunteer as a member of Her Majesty's Coastguard. Any one of these deserves recognition; the cumulative rightly justifies her status as an 'Engineering Hero'.

Natasha Lister

Fleet Solid
Support Naval
Architect

Level 3



Natasha has been centre stage in the development of the requirements for the Fleet Solid Support (FSS) ships. Her work has centred around developing ship sizing tools and subsequent operational analysis to enable informed cost and capability decisions to be made to ensure that the FSS requirements represent value for money for a capability that the Navy need.

She has been able to quickly grasp and contribute to new approaches with the ability to listen, understand, analyse and then provide valuable feedback. This complex analytical work has been undertaken at high tempo, with a gapped post and under the constraints of COVID which has been a remarkable achievement. Without Natasha's willingness to go above and beyond in providing inputs to key project decisions, the FSS competition would not be in a position to commence in such short order.

Following a decision by the Royal Navy to assemble the largest task force of its kind in decades to create a UK Carrier Strike Group which would be the "embodiment of British maritime power, and sit at the heart of a modernised and emboldened Royal Navy", the Weapons Operating Centre was asked to undertake urgent clearance of multiple UK and US munitions for HMS Queen Elizabeth. Classified as a major risk to a successful deployment at the outset, Zen was pivotal to the team's output; defining a ground-breaking approach to safety case arguments using US evidence and clearly communicating to a senior stakeholder community. Through her energy, dedication and professionalism, clearances were delivered ahead of the stretch target dates enabling the weapons to be embarked for the group training exercise and securing the flagship deployment of Carrier Strike Group 2021.

Zen Nicol

Carrier Enabled
Power Projection
Chief Engineer

Level 4



Since joining DES around five years ago as an externally recruited Level 2 Quality Assurance specialist, Kunjal has advanced rapidly to Level 4. These two rapid promotions were based on the energy and professionalism displayed in her Delivery Team based roles. More recently, Combat Air was struggling to achieve the necessary levels of assurance across all the Delivery Teams. Kunjal was selected to lead an effort to consolidate the Quality Assurance specialists into a central team. As well as reflecting the regard in which Kunjal is held by senior staff, her selection for this new role was also recognition of her proven ability to build and energise every team with which she had worked.

Kunjal has successfully built the new team and led them to deliver the change project's milestones on time. Combat Air has just completed its first new-style audit and we now have robust audit schedule looking ahead. In building her team and delivering the Combat Air Quality Assurance change project, Kunjal has shown again her people skills and her dedication and energy towards engineering improvement through active quality management. Kunjal is a busy working mother who has gone above and beyond to balance work with childcare through the pandemic and the school closures. However, this is not why Kunjal is a female 'Engineering Hero'. She is an 'Engineering Hero' for setting such a fantastic example to everyone around her and for delivering challenging business objectives at every stage of her rapidly-advancing MOD career.

Kunjal Gohil

Combat Air Operating Centre
Quality Team Leader

Level 4



Alexandra Price

NSS Central
Engineering Team
(SET) Efficiencies

Level 3



Alexandra is a very good candidate for an Engineering Hero that just gets on with the job, she has made a real impact on the implementation of innovation in our platforms and has taken on more and more responsibilities within her short tenure in the Central Engineering Team. Before this, she willingly volunteered to support Marine Systems Support Fire Escape Systems in the absence of an engineer, where everything was not going very well.

She juggles all of this within the demands of a young family and joining a team whilst in lock down.

Wg Cdr Michelle Parker

CSAT Platform Manager and Deputy C17CSAE Team Leader



“Michelle joined the Command Support Air Transport (CSAT) in March 2020 on promotion to Wing Commander and has had the unenviable position to assume a leadership role, in a new team for a high performing platform that has had a large staff turnover in the past 12+ months all during an unprecedented situation that has affected the globe. She has immediately and effectively assumed that role and overseen a number of concurrent activities for a fleet of 4 aircraft with two variants Mark 1 and Mark 2. She has successfully delivered a COVID-related aircraft modification within three months, coordinated the MODE5 modification to the 1st of type aircraft and maintained a customer content level of availability. All despite an uncertain Out of Service Date of March 2022 (now confirmed within Integrated Review), challenging modification programme (MODE5) and sustained customer requests for aircraft improvements despite the Out of Service Date looming. She has received recognition from Director Air Support with his award; the CSAT Team have also been put forward for the consideration of a CEO's Commendation under her leadership.”

Mandy has been the Chief Engineer of the Force Protection Electronic Countermeasures (FPECM) Delivery Team since early 2020. After serving in the RAF, in industry supporting the RAF and latterly in the DE&S Air Domain as an Engineer for over 34 years, she actively sought out this role as her chance to broaden her development and experience. The technology and systems she is now responsible for are very different but she has fully embraced the opportunity to lead the future of life-saving force protection systems.

Mandy is responsible for an engineering team of 16 crown servants, military personnel and contractors plus three Customer Requirements Managers. She is an excellent leader providing clear direction and support, both technically and for wellbeing, and the team has thrived through the challenges of COVID-19. She is also a great advocate of the engineering apprentice and graduate schemes with a good flow of participants through the delivery team, all departing with an appreciation for the time and mentoring effort taken by Mandy and her team to develop meaningful work packages with real empowerment. Mandy is passionate about raising awareness of the positive impact women have had in Engineering, each month selecting an Engineering Hero of her own promoting their achievements by way of a picture and summery in her email signature block.

Mandy is nominated on the grounds of her courage to stretch herself even after 34 years' service in one domain and for her strong leadership through a quiet and confident demeanour providing high team morale through challenging times.

Mandy Cox

Force Protection Electronic Countermeasures (FPECM Delivery Team) Chief Engineer working in the Integrated Battlespace Operating Centre

Level 4



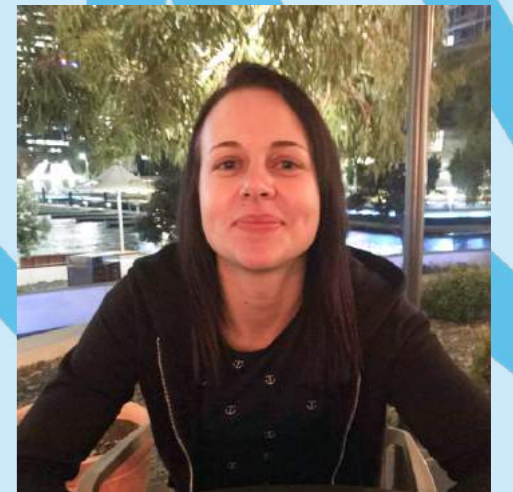
Jo's first class performance over the last twelve months has resulted in significant achievements, including the development of an Remote Piloted Air System (RPAS) categorisation proposal for submission to the Military Aviation Authority; pulling together diverse and highly complex safety and airworthiness evidence data into a single action, information and learning repository for the Airworthiness and Safety Development Working Group (ASDWG); and corralling vast amounts of work from across the enterprise to support the Future Combat Air System Acquisition Programme Outline Business Case submission. An example to colleagues and peers in the whole of Combat Air Strategy Team (CAST), despite the challenges of Covid-19 working restrictions she has consistently sought opportunities for personal and professional development. Whether connecting with specialists and other teams to gather 'learning from experience', undertaking ad hoc reviews of the Airworthiness and Safety Development Working Group (ASDWG) evidence table, seeking out further development opportunities through the sustainability and digital twins webinars, or engaging with the RPAS Team Leader to set up a RPAS Community of Interest, she demonstrates the capacity and resilience needed to be considered an engineering hero.

Jo's technical ability and adaptability are key skills that enable her to perform at the highest level, able to translate her extensive RPAS and certification experience to novel technologies like swarming drones and innovative practices such as digital certification. She clearly values professional development, as evidenced by her determination to complete the BEng qualification, and actively seeks feedback for development and self-improvement. All of these personal and professional qualities combine to make her an excellent role model and mentor, and her support to others speaks volumes.

Jo Whitlock

FCAS Airworthiness and Certification Engineer

Level 3



Natasha P

**Flexible Tactical
Unmanned Air Systems
Deputy Engineering
Authority**

Level 2



Natasha is an Engineer working in the Remotely Piloted Air System (RPAS) Delivery Team. She has contributed to the technical, airworthiness and safety assurance of Mini RPAS ensuring the equipment required by Service personnel when deployed on active operations is safe to use, not just for them but in the operating environment. She has worked in support of Urgent Capability Requirements, setting the future engineering framework for RPAS of the future. The unique requirements that are presented, whether for small fixed wing RPAS operating over land or larger rotary RPAS operating in a maritime environment, Natasha has successfully maintained dynamic and agile thought and a flexible approach to react to changes in operational demands. Her successes include, and certainly not limited to leading intelligence downlink work and integration of Identification Friend or Foe systems; both essential to operational capability. She has also led the initiation of the Combined Integrity Working Group, required by the regulator, underpinning much of the safety assurance of the equipment.

When not being an Engineer in work, she actively supports wider initiatives and is a true advocate of Diversity and Inclusivity, both ensuring the working environment is positive but supporting mental health wellbeing through organising events as part of the RPAS Delivery Team's Social Committee. She has championed improved Diversity and Inclusivity and has, with the RPAS Delivery Team Leader, developed an Action List to ensure better and wider LGBT+, race and gender awareness.

When not in work, Natasha takes her passion for engineering into her community. Intimately involved in Women in Engineering networks, she also supports STEM activities for young people. She freely gives her time to teach coding skills (using Scratch and Python) and has maintained this impetus through COVID-19 restrictions, supporting the teaching activities using innovative means to ensure that these skills can still be taught.

Jess has provided inspirational leadership and has proved herself to be the go to person on hazardous materials across DE&S. She has ensured that the way forward to tackle hazardous materials management in equipment has been well mapped out. She has also leant in and supported the Front Line Commands on their returns to enable the continued use of hexavalent chromates across the air environment.

She regularly engages with regulators and other government departments to ensure that DE&S is on the front foot with changing hazardous materials regulation. Jess and her team continue to develop additional training and update the Hazardous Materials portal with the latest information to enable others to understand how best to approach this thorny topic. Jess is always approachable and keen to assist others despite some taut deadlines.

Jess Hambling

**Hazardous
Substances
and Restricted
Materials Lead**
Level 4



Ciara Black

**Vehicle Support Team
Lead Engineer – Tracks**

Level 4



Ciara is the Lead Engineer for the Vehicle Support Team's (VST) extensive in-service Armoured Fighting Vehicle fleet, which includes the mainstay of the British Army's land warfighting capability and is the largest team in the Land Domain. A collection of platforms averaging 37 years of age, the armoured fleet demands only the most exceptional engineering talent to manage the complex tapestry of safety, obsolescence, and operational issues. Ciara has been that engineer for 2.5 years, holding the key safety delegation and being on-point to apply her extensive knowledge, skills, and experience to any problem in order to keep the platforms safe for the user in barracks, on exercise, and on operations. She has been instrumental in improving the delivery of in-service safety, with carefully constructed plans to revamp the safety process and artefacts across VST, the benefits of which will be felt for years to come. She has been an excellent role model and positive influence to her 18 junior engineering staff and has excelled when stepping up as Chief Engineer for a three month period – confidently and articulately tackling issues with a very senior audience and potentially far reaching impact.

Ciara's immediate and comprehensive reaction to safety incidents have undoubtedly reduced the risk to the Front Line User even though they will never know the amount of time and effort Ciara has dedicated to it. Ciara's robust stance on safety and her ability to support her arguments with experience and data have led to a much safer working environment for all deployed troops that work in or near armoured vehicles, as well as the thousands of people who move, maintain and repair them. Her dedication, expertise, passion, and positive influence deserve to be recognised at the enterprise level.

Linda Diskett

Ships Engineering Function Capability lead

Level 4



Linda drives the Engineering Function agenda to improve the capability of the engineers from new apprentice to senior engineer. She has a passion for nurturing the individual to ensure they get the right training and development without compromising on standards or business priorities. Linda focusses on inclusivity ensuring managers and teams are able to support those with diverse needs to achieve higher team performance and higher levels of team wellbeing.

Her ideas on attracting and retaining a diverse workforce across the Function are imaginative yet realistic. Linda is a true innovator who brings enthusiasm, knowledge, experience and skills to ensure that the Engineering Function continues on the right track to a truly diverse, inclusive, and comfortable workforce.

Elise is acknowledged as being a subject matter expert in all things Software Safety, Sensors and Electronic Systems and is now the Inaugural Chair for the Artificial Intelligence Technical Network UK which she hopes to escalate to an International Committee. Elise took on Underwater Electronic Warfare Chief Engineer, a maritime role for which she had little experience, but she has grasped this nettle and is making real improvements across the team.

She has challenged the current Acquisition Safety Project construct and offered an updated Organisational Design, whilst also challenging behaviours in Underwater Electronic Warfare with respect to appropriate decision making. She has been short-listed for a DE&S Specialist Fellowship and is currently developing a submission for this.

Elise Tapping

Underwater & Electronic Warfare Chief Engineer

Level 4



Tamara Callender

HFI Specialist – Maritime Domain Lead

Level 4



Tammy has recently been promoted to Level 4, in the Internal Technical Support (ITS) Human Factors Integration (HFI) Team. At this level, Tammy has taken on the Lead role for coordinating ITS HFI input into DE&S Ships domain. She has taken this additional responsibility in her stride, working to not only promote the ITS HFI Team, but also the work of all the ITS disciplines in these areas. She has been a leading light in the team, promoting the maritime business and developing new workstreams as well as delivering high quality HFI support to several programmes within these areas.

Tammy is a highly effective member of the team, consistently delivering her programmes within budget and demonstrating a maturity beyond her years. She has worked particularly hard throughout lockdown to meet the demands of multiple programmes, putting in long hours to ensure that project demands are met, and that the maritime projects are suitably resourced and managed. She sets herself high standards that she never fails to meet, her technical work is excellent, and she has continued to excel in a delivery role despite the additional responsibilities that she has taken on with her recent promotion. Tammy balances her time well, ensuring high quality delivery to anticipated timescales, and maintaining high levels of utilisation, whilst also developing new business and supporting other members of the team.

Since promotion to Level 4, Tammy has also accepted the Functional Development Officer (FDO) responsibilities for some of the new members of the team, supporting them with their induction into the organisation and the business as a whole, whilst at the same time developing her leadership and management skills. She has supported new team members, helping them settle in and working with them to resolve any issues that may have arisen.

Tammy is not been afraid to challenge the status quo; she is keen to offer suggestions for business improvements and has been central to driving change where it is required. She has also sought to push the HFI initiative forwards through the development and delivery of a highly successful HFI Awareness Course, thus far reaching over 200 engineers across DE&S with another four courses planned for this year.

Overall, Tammy epitomises everything that we strive for in our engineers; she is technically savvy, communicates well and is dedicated to ensuring programmes comply with engineering policy, standards and regulation. She works collaboratively with team members to solve complex engineering problems, whilst ensuring that equipment is safe to operate and meets the front-line customer's needs. Furthermore, through her development and delivery of the HFI Awareness Course she is helping to build our engineering capability, developing our people and sustaining critical skills. In summary, Tammy is an excellent ambassador for MOD generally and DE&S specifically; she is a highly valued asset, who deserves recognition at the highest levels.

