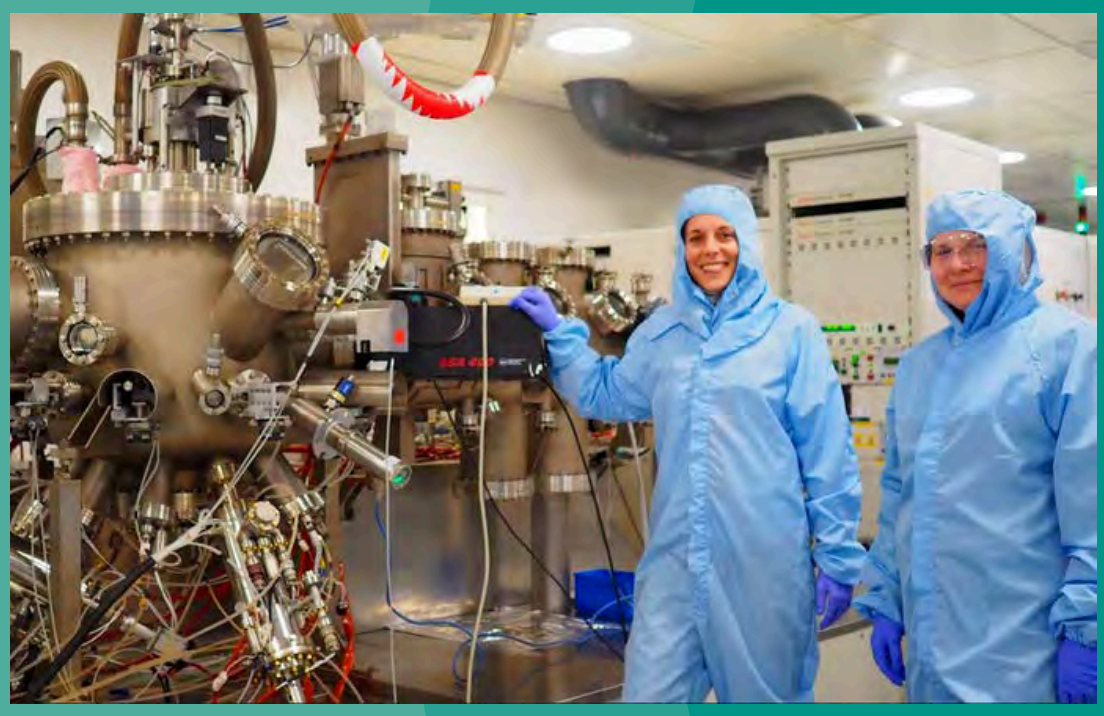
NATIONAL EPITAXY FACILITY

Engineering and Physical Sciences Research Council

Universities of Sheffield Cambridge & University College London

Celebrating International Women in Engineering Day at NEF!



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Prof Rachel Oliver, Director of the Cambridge Centre of Gallium Nitride

“"I love working in materials engineering because I am fascinated by how the structure of materials at a very small scale - down to less than one billionth of a metre - can control how that material behaves. Being able to engineer materials at that scale has led to many adventures, including founding a spinout company!"

Rachel was awarded an OBE in the 2025 New Years Honours List for her services to Materials Engineering. She is also our ED&I lead and chair of the NEF ED&I committee, and a passionate advocate for ED&I in science and engineering.

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Dr Zofia Bishop, Operations & Business Development Manager

“During my MEng degree I became particularly interested in semiconductors and the myriad of devices that they are used for. I completed a PhD in on-chip nano-photonics for quantum optical circuits. My main projects were on nanobeam photonic crystal filters, and electro-mechanical actuators for tuneable beam splitters, both with embedded InAs/GaAs QDs as single photon emitters.

In 2021 I moved to NEF where I manage the operations, finances, customer relations, performance reporting, grant writing contribution and strategic direction of the NEF. No day is the same, and all my previous engineering and physics training comes in handy, and that's why I enjoy this role.

Engineering is facing new challenges and problem-solving and that's why I enjoy it. The variety of roles available in the field also mean that there is plenty of choice out there to lead to fulfilling careers.”

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Dr Elisa Sala, Head of Sheffield MOVPE

Elisa joined NEF as a Research Associate in MOVPE in 2018 after earning her PhD at the Technical University of Berlin. In 2023 she was promoted to Head of MOVPE.

She is focusing on the epitaxy and the characterization of various III-V semiconductor materials, in particular arsenides and phosphides. Her special interest is in the epitaxial growth of quantum dots (QDs).

She also enjoys supervising and training PhD students and promoting interest in epitaxy.

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Dr Pallavi Patil, MBE Research Associate

“I joined the NEF as a Research Associate in 2018, and at the time I was the only woman working within the facility. Since then, I have contributed to the growth, characterisation, and optimisation of III–V semiconductor materials, including GaAs-, InP-, InAs-, and GaSb-based systems, for applications in optoelectronics, telecommunications, mid-infrared photonics, and quantum technologies.

My work has encompassed quantum dot emitters, integrated photonic platforms, dilute bismide and antimonide materials, and advanced semiconductor device architectures. I am proud to be part of a field where increasing diversity continues to foster innovation, creativity, and scientific excellence.”

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Dr Hui Jia, MBE
Research Associate

“I enjoy working in engineering because it combines scientific curiosity, precision and practical impact.

My work focuses on molecular beam epitaxy growth of advanced semiconductor materials for photonic and optoelectronic devices, including group-IV and III-V thin films and quantum dots.

A career highlight for me has been contributing to the development of high-performance InAs/InP quantum dot lasers for telecom C-/L-band and beyond 2-μm applications. I especially enjoy the challenge of engineering materials at the atomic scale and seeing how this can translate into real device performance.”

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Dr Young In Na, Research Associate in Characterisation

“What I enjoy most about working in engineering is the combination of problem-solving and hands-on experimental work.

I particularly enjoy developing and improving measurement techniques, as well as supporting researchers through device fabrication and optical characterisation.

A career highlight for me has been contributing to the development and improvement of the micro-PL characterisation capability within the National Epitaxy Facility. It has been especially rewarding to support and train other researchers, and to see my work help move their projects forward.”

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Pippa Hopkins, Facility Administrator

“I joined the NEF and University of Sheffield in 2022. My role includes administrative support for the Facility, marketing, events, financial reporting and outreach.

I am also on the UK Semiconductors organising committee for the annual conference every July which is good fun and no year is ever the same!

It is a varied role which I enjoy and it has been really interesting getting to learn about engineering and semiconductors - an area I hadn’t worked in before.”