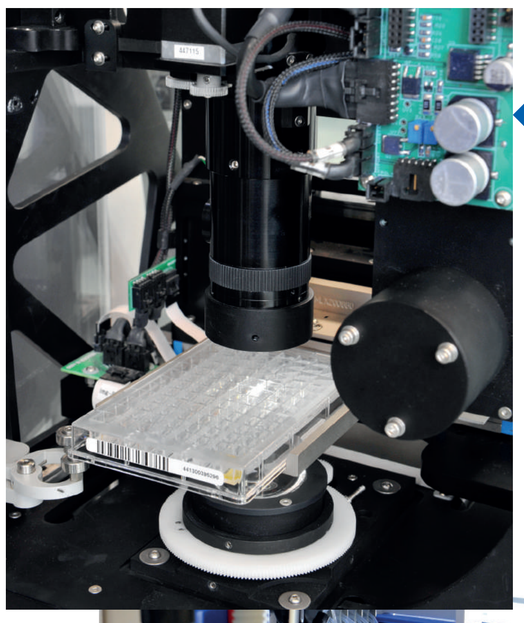
The Wellcome Trust Centre for
Human Genetics

UNIVERSITY OF OXFORD

The Oxford Protein Production Facility OPPF

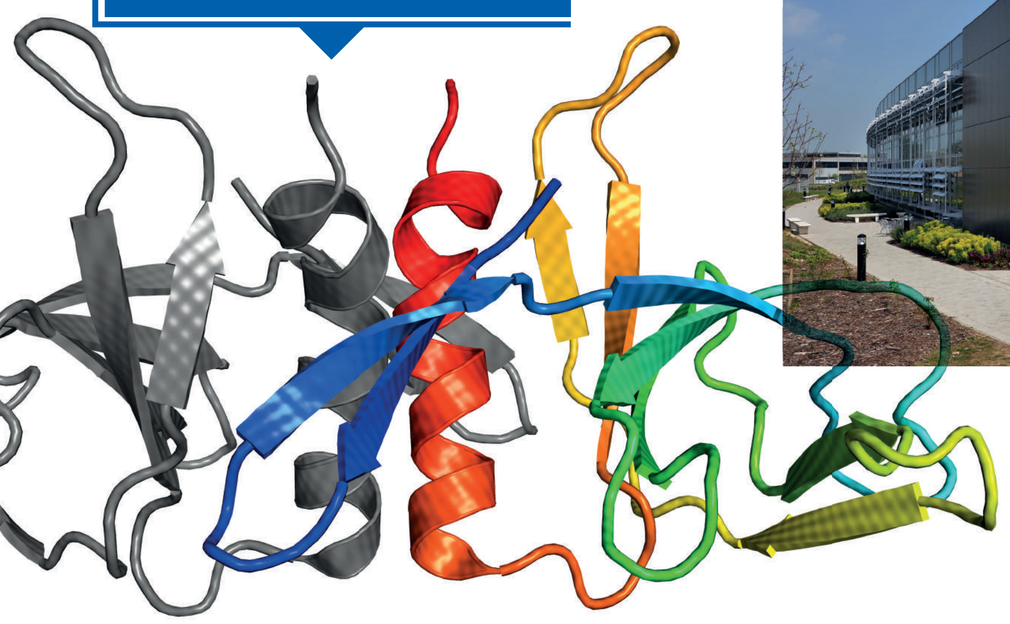


Imaging equipment

At work in the OPPF labs

High throughput purification systems

The first structure solved at OPPF: nsp9, a protein from the SARS coronavirus



OPPF at Harwell

WHAT WAS KNOWN

- The human genome and those of many human pathogens had been sequenced providing a large database of protein sequences
- Determination of the three dimensional structures of proteins lagged far behind the acquisition of these new protein sequences
- National initiatives in the USA and Japan were attempting to address this issue through establishing structural genomics programmes

WHAT WE DID

- In 2002, established the Oxford Protein Production Facility as the first structural proteomics project in the UK
- Developed a range of highly specialised technologies incorporating robotic systems to enable the high throughput expression, purification and crystallisation of recombinant proteins
- TThe OPPF crystallisation facilities have contributed to the determination of over 250 unique protein structures in the past 13 years including a number of viral proteins that are targets for anti-viral therapeutics
- Made the technology platforms for protein production and crystallisation available to the UK academic community by setting up the OPPF-UK at the Research Complex at Harwell, adjacent to the Diamond Light Source

WHAT THIS ADDS

- New technology that has been widely adopted by the UK structural biology community
- The OPPF-UK continues to work in partnership with UK academic groups to study a wide variety of proteins of biomedical, veterinary and food security importance

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