

**Grand Challenges Teacher Placements**

The Government's Industrial Strategy sets out four key Grand Challenge themes, aimed at putting the UK at the forefront of future industry. Each challenge focuses on a specific real-world problem, and each of these problems offers a real opportunity to enthuse and inspire young people in their learning.

1. Artificial intelligence: Using data, AI and innovation to transform the prevention, early diagnosis and treatment of chronic diseases by 2030.
2. Ageing society: Ensure that people can enjoy at least 5 extra healthy, independent years of life by 2035.
3. Clean growth: At least half the energy use of new buildings by 2030.
4. Future mobility: Put the UK at the forefront of the design and manufacturing of zero-emission vehicles, with all new cars and vans effectively zero emission by 2040.

STEM Learning has recently launched itsGrand Challenges – Our Futuresprogramme to raise awareness of Grand Challenge related industries and support young people to make career decisions based on opportunities of the future. This programme is funded by the Department for Business, Energy & Industrial Strategy (BEIS).

Grand Challenge Teacher Placements are a unique opportunity for teachers to learn what future technologies will offer in terms of careers and job roles, from the very people who are developing those future technologies right now.

Through their 3 day placements, participants will appreciate the importance of thinking ahead and learn what skills young people will need to succeed in the future. The placement will be preceded by a scoping meeting and followed up with a reflection session at which teachers will plan on how to share their experiences with their school community.

**Merck BioReliance**® is offering 5 Grand Challenge teacher placements, focusing on **Artificial Intelligence**.

Merck BioReliance testing services is the leading provider of contract services in the biopharmaceutical industry, supporting every phase of the testing, development and manufacturing process. Clients include producers of traditional pharmaceuticals, medical devices, chemicals and other products, as well as biopharmaceuticals. Merck BioReliance are a leading GMP and GLP testing services provider for the development of therapeutics.

The company is continually expanding and pushing the boundaries of the use of Artificial Intelligence and Automation to progress the world of biosafety testing. On a daily basis they generate multiple large data sets to assess bacterial and viral contaminants. They are introducing and brancing into Next Generation Sequencing platform to assess Virus characterization, Adventitious agent detection and Genetic stability of host genomes. Studies of this nature use automated robotics from sample extraction, plate set-up and cloud systems for data analysis.

Grand Challenge participants will be given practical insights into how Merck BioReliance analyse and process data from medicines, patients and gene products. They will have the opportunity to carry out practical activities including aseptic technique training, robotic systems and data analysis. Participants will also be given a complete overview of a Contract Research Service Company and laboratory tours of Glasgow and Stirling facilities with opportunities to review and use robotic systems.

Timetable

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| Scoping Meeting | 16 May | 4.00pm - 5.30pm | Conference Call |
| Placement | 28 & 29 May | 9.30am - 4.30pm | Merck BioReliance,  West of Scotland Science Park, G20 OXA |
| Placement | 30 May | 9.30am - 4.30pm | Merck BioReliance,  Innovation Park, Stirling, FK9 4NF |
| Recall | Tbc Sept | 9.30am - 4.30pm | SSERC,  Dunfermline, KY11 8UU |

Bursary: Teachers will receive funding of £1000 on successful completion of all parts of the placement.

This opportunity is open to teachers in state-funded secondary schools. If interested, please email [helen.winton@sserc.scot](mailto:helen.winton@sserc.scot) for an application form.