

Big Science and the Fourth Industrial Revolution (4IR)

STFC CDT IN DATA INTENSIVE SCIENCE

University of Manchester | Lancaster University | University of Sheffield

STFC Scientific Computing Daresbury | STFC Hartree Centre

Introduction to the CDT and placements



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MANCHESTER
1824

The University of Manchester

STFC call for training in Data Intensive Science

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“The UK faces a shortage of skills in managing, analysing and interpreting large, complex datasets and high rates of data flow. These skills are increasingly needed across a wide range of sectors as, aside from its many scientific applications, complex data analysis becomes an ever more important requirement underpinning many aspects of society.

The STFC-funded community, driven by the need to handle the ever increasing data rates from facilities such as the LHC, Gaia and in the future the Square Kilometre Array, is in a strong position to contribute to developing this skills requirement by training a new generation of PhD-qualified data specialists ”



Goal:

- Address data challenges presented by current / future projects in data intensive science: particle physics, nuclear physics or astronomy.
- Knowledge exchange: students should benefit from expertise developed in other sectors / disciplines *and* apply the skills they develop to benefit the broader economy

CDT overview

4IR STFC Centre for Doctoral Training in Data Intensive Science

'4IR' = Fourth Industrial Revolution (as defined by the WEF) driven by data exchange

Aim: Develop future leaders in the data intensive methodologies underpinning both modern science and the fourth industrial revolution



Industrial Placements:

4IR CDT registered PhD students have a six month industry placement during their PhD

Organised by the student/supervisor with the facilitation of the CDT management who provide potential partners (emails, and events like these). We can help initiate and develop contacts with new partners, and help with formal agreements.

Student placement timeline:

- Students can go on placement any time during the 3.5+0.5 year PhD placement:
 - In practical terms this means some students being available ~now and some up to 2.5–3 years from now (for our newest cohort).
- We encourage students to get in communication with possible partners early to organise and secure placements even if these begin some time from now.
- It is possible for the 6 month placement to be 2x3 months if mutually agreed.

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Training needs of companies?

- If any specific software/skills training is recommended for careers in your sector, please let me know and we can look into adding these to our training opportunities!

Will the industry placement be assessed?

- Yes: light touch for record-keeping. The student will be required to write a short report (up to 5000 words) on their placement: any training, narrative of what was done, any impacts/outputs. This is assessed by both the industry partner and the academic supervisor (for coverage, sensitive info, clarity).

Considerations for companies:

- Any IP/NDA issues that need to be arranged? Security clearances? Nationality restrictions? Remote working potential? In-person working potential?

Please ask questions!