Developing the next generation of dRTPs

STEP-UP RSLondon 2025

Stephanie Thompson
Advanced Research Computing

UNIVERSITY OF BIRMINGHAM

Who are we and why do we run the BEAR Challenge?

Dudley children turn school into mini science museum
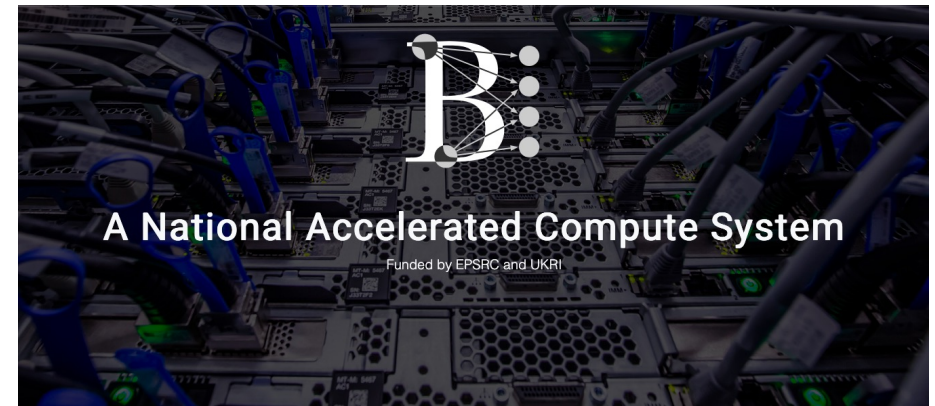
28TH MARCH 2022   EDUCATION   LOCAL GOVERNMENT

Mike Wood MP with children, staff and Marine Biologist Dr Stephanie Thompson at Bromley Pensnett School

WORKING TOGETHER WITH
STEM AMBASSADORS
INSPIRING THE NEXT GENERATION

Birmingham Environment for Academic Research
delivered by **Advanced Research Computing**

A National Accelerated Compute System
Funded by EPSRC and UKRI

228
GPUs

57
Compute Nodes

5400 TB
Storage

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The history of BEAR Challenge

2018 5 teams of 5	→	2019	→	2022	→	2023	→	2024 10 teams of 5	→	2025 15 teams of 6

Example challenges

Combining art and AI using neural style transfer

"I enjoyed fusing various kinds of images and seeing the results."

Design a HPC cluster

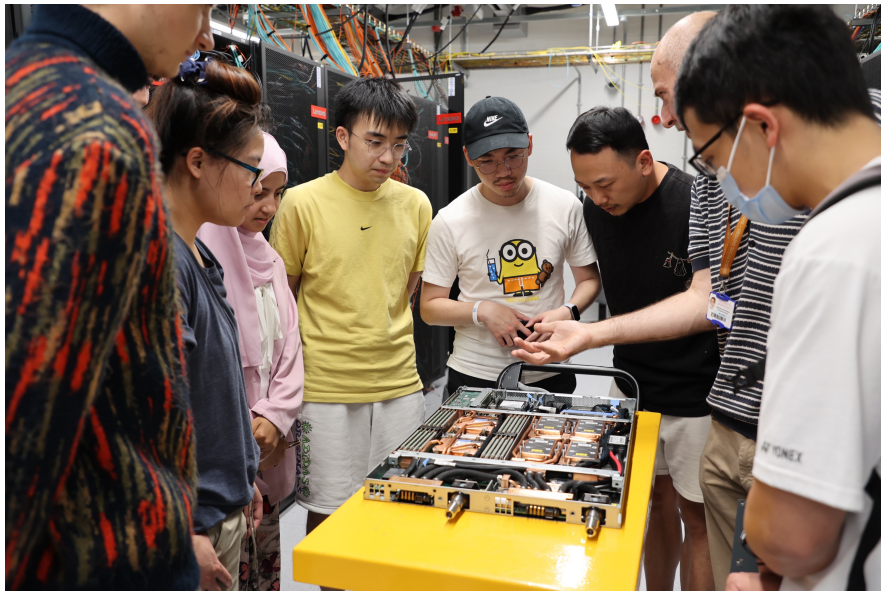"Challenge 5 was very engaging and interesting, and helped a lot with understanding the topology of HPCs"

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Talks on careers in HPC

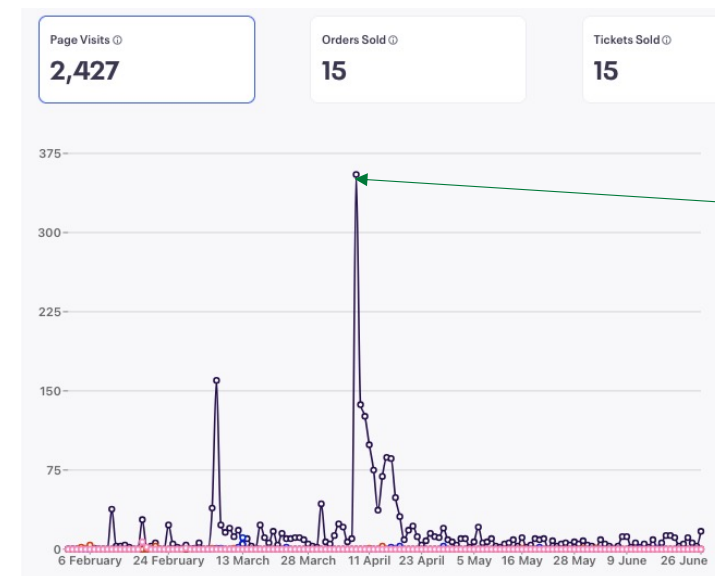# Data centre tours & viewing compute

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BIRMINGHAM

Assembling teams!

Advertising

- Careers event in February
- Part of UoB Extra
- 31 teams applied, 227 students

This year's 15 teams

- Comp Sci (6), Comp Sci mixed (3), Social Sciences (3), Physics & Astronomy (2), and Engineering (1)
- ~1/3 undergraduates, 1/3 women

Page Visits	Orders Sold	Tickets Sold
2,427	15	15

Library advertising

Benefits for the students and ARC

7 respondents (19%) answered HPC for this question.

usage of HPC   Computing   Bash   parallel programming   HPC module
HPC architecture   challenge HPC lots   Slurm   alot about HPC
HPC and computers   different   good   time   use   HPC systems
ones used in Challenge   HPC field   coding and a lot

Did the BEAR challenge experience impact your career choices?

Yes, I think it did, as I am now working at the STFC in the Scientific Computing Department which is all about facilitating scientific research or being involved in the research yourself. I think showing interest in the BEAR challenge and explaining what I was going to be doing gave me an advantage in securing my position, and the knowledge gained from the event gave me a better start when I got here.

"…and the strength of our research-informed teaching. A good example of this was the recent BEAR (Birmingham Environment for Academic Research) Challenge event for undergraduate and taught postgraduate students…"
- Vice Chancellor's email to all staff, July 2024

Any questions?

Blogposts: https://blog.bham.ac.uk/bear/category/events/bear-challenge/

#BEARChallenge2025
Email: s.e.m.thompson@bham.ac.uk

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