Brief Bio

- Graduated with an undergraduate degree in History

- Was accepted onto a graduate programme as a Systems Programmer on the basis of a logic test and an aptitude test and Scottish Highers in modern languages and classics
  - "Would you rather be a general or a bishop?"

- Moved to a EPCC in 1993 as a project scientist, after some time out as a full-time parent

- Co-founder of WHPC

- Almost 30 years later, I've been a director at the UK's two supercomputing centres (EPCC and Hartree Centre) and Managing Director of PRACE and have recently taken up a part time role as STFC's eInfrastructure Strategic Advisor

PENGUIN CLASSICS
BEDE
A HISTORY OF THE ENGLISH CHURCH AND PEOPLE
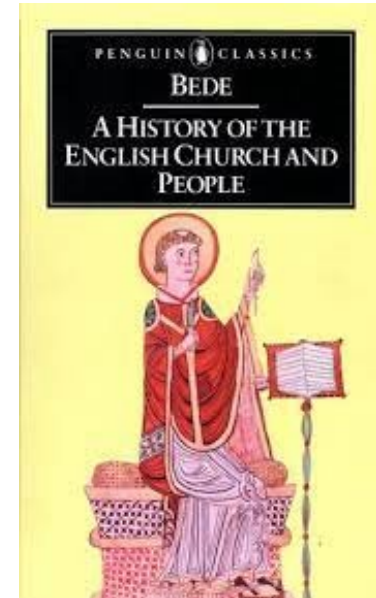
Contents of Talk

- Focus on thinking about intersectionality, diversity, inclusion, allies and priorities for your chapter

- Partly anecdotal and/or insights from personal experience, coupled with things I've learned from WHPC

- Starting with a bit of history and context...

- Objective – re-define and re-claim the concept of a Bede-woman for the 21st Century

    Bede-woman a) a female suppliant or petitioner, a female plaintiff
    (b) an almswoman who prays for the souls of her benefactors.

Women in HPC (WHPC)

WHPC began with a discussion at EPCC on return from SC (in 2013?)

"Why are there not more women working in HPC?"

Pictures from 2013/14

Two women, fifteen men in list of continuous attendees

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Women in HPC (WHPC)

This led to a mission to find the answer by raising awareness, providing support based on what we learned, and offering opportunities for women to network.

We got money from EPSRC (network grant) to supplement the ARCHER CSE funding and support the UK community.

Internationally, we submitted a workshop proposal to SC (which was accepted after a struggle) to gauge interest from outside EPCC…

The First Workshop

Women in HPC (WHPC)

- Workshops and BoFs at SC and ISC are continuing…
  - Subjects we've covered include imposter syndrome, networking, building your social media presence, engaging with allies, WHPC posters and lightening talks etc.
- …but new focus is on chapters where local groups can set their own relevant agendas, objectives and priorities

Texas WHPC

Botswana

Pictures from 2013/14

Intersectionality

Intersectionality is an analytical framework for understanding how aspects of a person's social and political identities combine to create different modes of discrimination and privilege.

- gender, race, ethnicity, class, sexuality, religion, disability…

There is no such thing as single-issue struggle because we do not live single-issue lives.

–Audre Lorde

…intersectionality is one of the concepts driving the focus in WHPC on chapters

BLM movement was the trigger point for WHPC globally to consider its role and mission
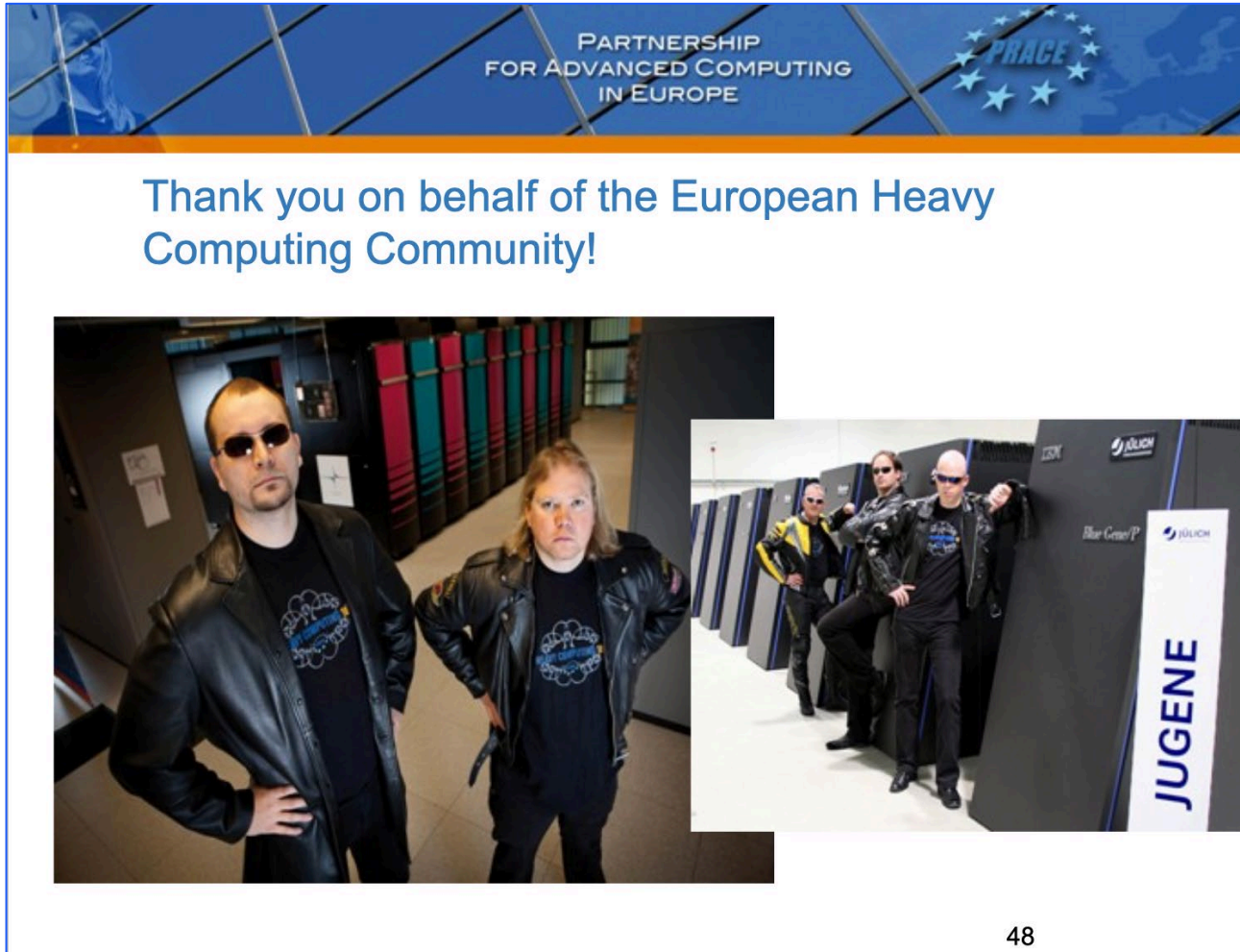
"EPCC – Is that a Girls' School?"*

Taking their turn staffing the EPCC booth at SC (although in those days the verb was "manning")

* University

Not ISC or SC but similar seen at some vendor booths in the "old days"

V

The PRACE Calendar → the Nerd Party

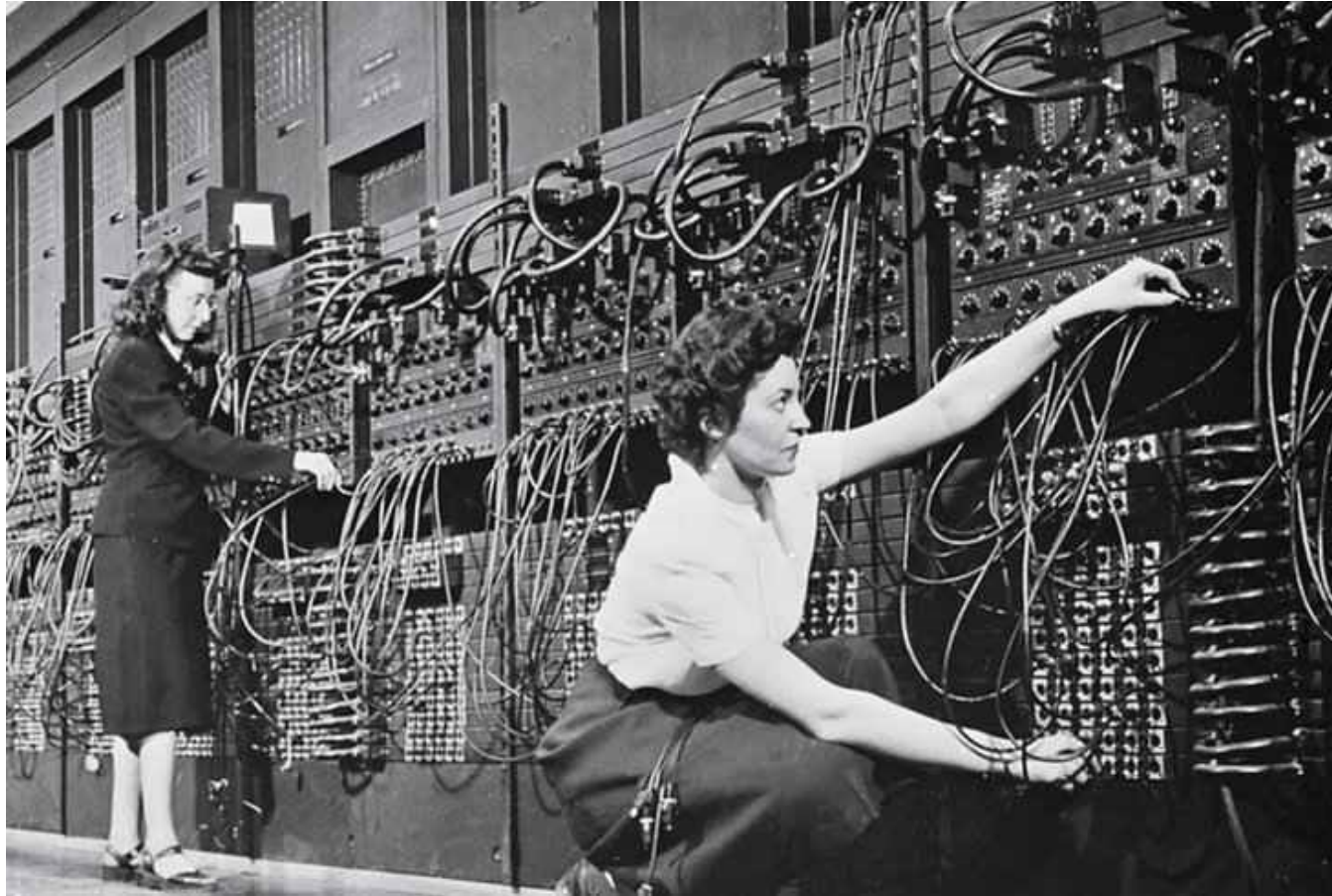Thank you on behalf of the European Heavy Computing Community!

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Pictures from 2010

PRACE – "Supercomputers for All" 2013 event (Council and Board of Directors)

- About 35 people
- 6 women (including one note taker)
- (No non-white people)

When "Computer" was a Job Title...

FE NEWS March 2022

- A [Tech Nation report](#) found that just 19% of UK workers in tech roles identify as women, despite making up 49% of the workforce in total.

- Focusing more specifically on coding, [Wired reported](#) recently that only 17% of coders in 2019 were women – that is down from the 1960s and 70s when many more women were computer programmers and systems analysts.
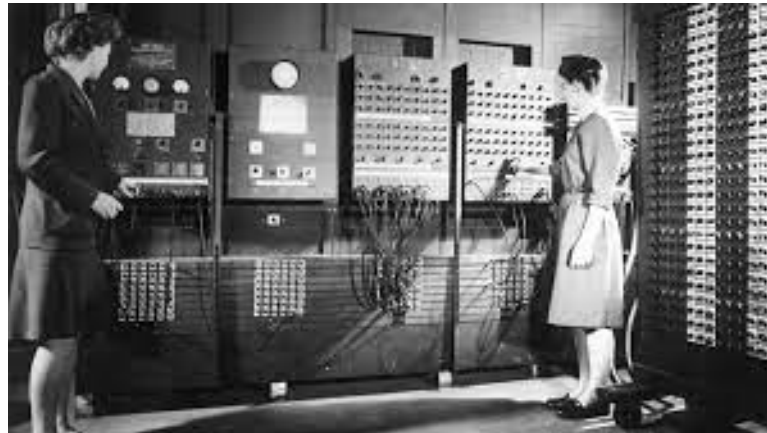
Admiral Grace Hopper

In America, Grace Hopper made a great contribution to computing during the war. But she made her biggest impact after the war, inventing one of the first modern programming languages, COBOL, which revolutionised computing in business.

Diversity in the 1950s and 60s

Grace Hopper – with one white, one Asian and one African American male colleagues (Getty Images)

Mary Jackson NASA

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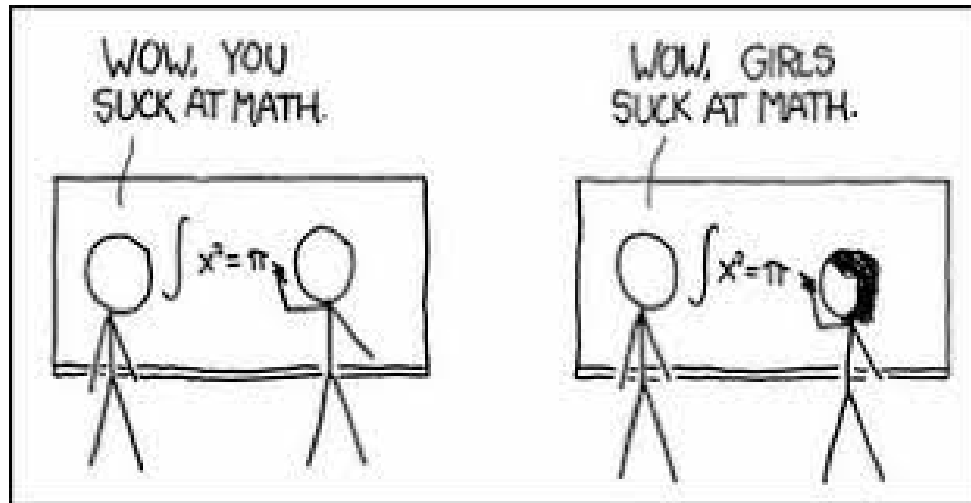# My Early Lessons on Why Diversity in Teams Matters

NCR Dundee – c1984

The Maths of Diversity (1)

The importance of not being the only one of your kind in an organization or field

XKCD Cartoon

The Maths of Diversity (2)

- In an organisation of 100 people, 80 are male and 20 are female

- 10% of the staff regularly make sexist or disparaging comments
  - Equally prevalent across genders - 8 males and 2 females
  - 80 males are exposed to the negative comments of 2 females and 20 females are exposed to the negative comments of 8 males
  - Frequency of being exposed to such comments is much higher for the minority group!
  - (The maths also applies to other minorities)

"Boy Jobs and Girl Jobs"

"Theresa May has revealed she thinks there are 'boy jobs and girl jobs' at home and that husband Philip is in sole charge of taking the bins out as the couple appeared on BBC's *The One Show*." May 2017

A typical twitter response:
"Boy jobs and girl jobs. #everydaysexism from the top. Good thing we've got a female prime minister to tackle this. Oh, wait a minute …"

Do we have "boy jobs and girl jobs" in HPC and RSE?

Is this through individual choices or (partly) as a result of unconscious or conscious bias?

Do men and women have different roles in supercomputing?

- UK eInfrastructure Survey (2016) looked at gender equality in HPC

- There were 5 times more men than women working in HPC in the UK

- 18% of women and 38% of men had their first experience of programming at school

- 56% of women had no experience of HPC until postgraduate level

- 15% of women had no experience of HPC until PDRA level

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Boy jobs and girl jobs

- 85% of women thought the ability to write code was very important in their work (74% of men)

- 29% of women didn't enjoy writing code, but felt it was important for their work (18% of men).

- Women gave research software engineering the lowest priority of their in-role tasks (as did men).

- Setting up and running applications was given the highest priority of the tasks for females.

- Women prioritised writing research papers second-to-last of their in-role tasks. Men gave it their top priority.

Do Men Make Better Programmers?

- Internal Google Blog 2017: "I'm simply stating that **the distribution of preferences and abilities of men and women differ in part due to biological causes** and that these differences may explain why we don't see equal representation of women in tech and leadership," read the 3,000-word fulmination by an anonymous male software engineer.

- According to the author, **natural aptitudes of men allow them to become better computer programmers**. **Women**, he said, have more "openness directed towards feelings and aesthetics rather than ideas" -- meaning they "**prefer jobs in social or artistic areas.**"

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Do Women Make the Best Project Managers?

- March 2022: "Women project managers do not use complexity or technical jargon to impress or overwhelm their peers and will only add complexity where necessary to clarify requirements."

- 2015: *Driving Decisions with Data Analytics* "Do women see the risks that men don't? Well, yes. Multiple studies support the notion that women are not only better at assessing risk, they are also better at guiding their actions and decisions accordingly."

Katharine Birbalsingh: Girls dislike hard maths, says education adviser (April 22)

A government social mobility adviser has been criticised for saying girls are less likely to choose physics A-level because it involves "hard maths".

Head teacher Katharine Birbalsingh told MPs it was not a subject girls "tend to fancy", adding: "I just think they don't like it."

She said 16% of A-level physics pupils at her school were girls, but she wasn't "campaigning" for this to go up.

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ISC22 – the Clustervision Clusterf**k

"**The Image** was taken from a retro Pop-Art collection and **represents the growing problem for HPC sites in finding people to look after their HPC installations**... in hindsight we see that this was a poor choice of image."

If you have a code of conduct for events, then inappropriate marketing images/tactics can quickly be dealt with (a WHPC innovation for ISC) – ISC management made them take their backdrop down.

Novel Ideas for Increasing Diversity – "Lego Women of Computing" (What not to do IMHO)

- Ada Lovelace
- Grace Hopper
- Betty Holberton
- Jean Jennings Bartik
- Gladys West
- Annie Easley

PRACE Women In HPC
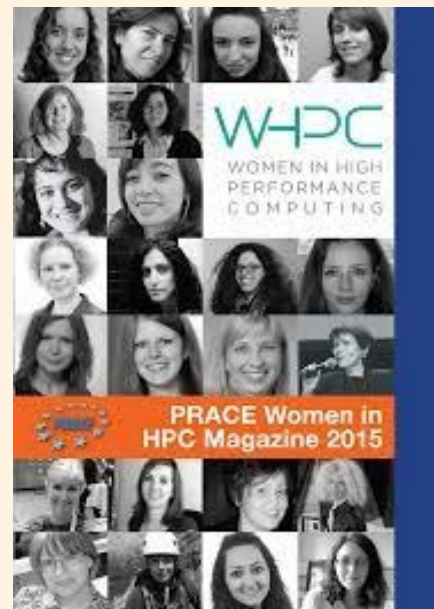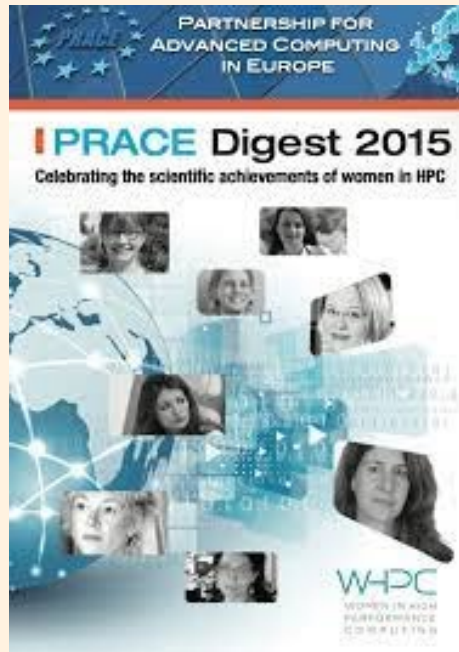
- Resulted in changes to the composition of the PRACE Scientific Selection Panel and Science Board
- Anyone nominating scientists from their country/field had to submit three names – with at least one man and one woman in their list

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Zoe Cournia wins inaugural PRACE Ada Lovelace Award for HPC 2016

Computational chemist Zoe Cournia was awarded the first ever PRACE Ada Lovelace Award for HPC for her work in computer-aided drug design. She talked about her work and how she believes more needs to be done to bridge the gap between researchers and the general public.

How Diversity and Inclusion are Different

The first meeting of the STFC Daresbury Equality, Diversity and Inclusion Group was very diverse…

But it was held over lunchtime during Ramadan (with a lunch provided) so was not inclusive.

"We didn't know" or "We didn't think"…

What Football Taught me about Indirect Discrimination and Inclusion

OR

?

The Importance of Allies

"An ally is someone who recognises their advantaged position in a particular context and intentionally leverages that advantage to help people in less-advantaged positions."

"One of the biggest lessons I've learned as a man who aspires to be and ally in HPC is to know when to stop talking" – Jack Wells, NVIDIA

Tobias Weinzierl (Durham University) shows his support for Diversity Day in his ISC22 talk

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Mansplaining and Hepeating

Congratulations to N8CIR WHPC Chapter

- Massive opportunity for you to be a pressure group and force for change in your universities

- Timing is very appropriate given the accelerating demand for staff across a whole range of HPC-related roles

- Focus on a few areas to begin with based on the priorities of your institutions/chapter – e.g. "22 for 22"

- Use your individual and collective experiences (from inside and outside work) to shape your programme and objectives and talk to other chapters to see what lessons they have learned

- Build a cohort of allies to support you (but don't let yourselves be reduced to a PR role as "evidence" of a commitment to EDI) – your Chapter launch is only the beginning