Head out on the HPC Highway: Opening Up HPC to Underrepresented & Cross-Disciplinary Domains

Birds Of a Feather Session
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Pawsey

NCI AUSTRALIA

THE UNIVERSITY of ADELAIDE

THE UNIVERSITY OF QUEENSLAND AUSTRALIA

ACKNOWLEDGEMENT

We acknowledge the Turrbal and Jagera/Yuggera people as traditional custodians of the land that we are gathered here today. We pay respect to their elders, past, present and emerging and we extend that to all Aboriginal and Torres Strait Islander peoples.

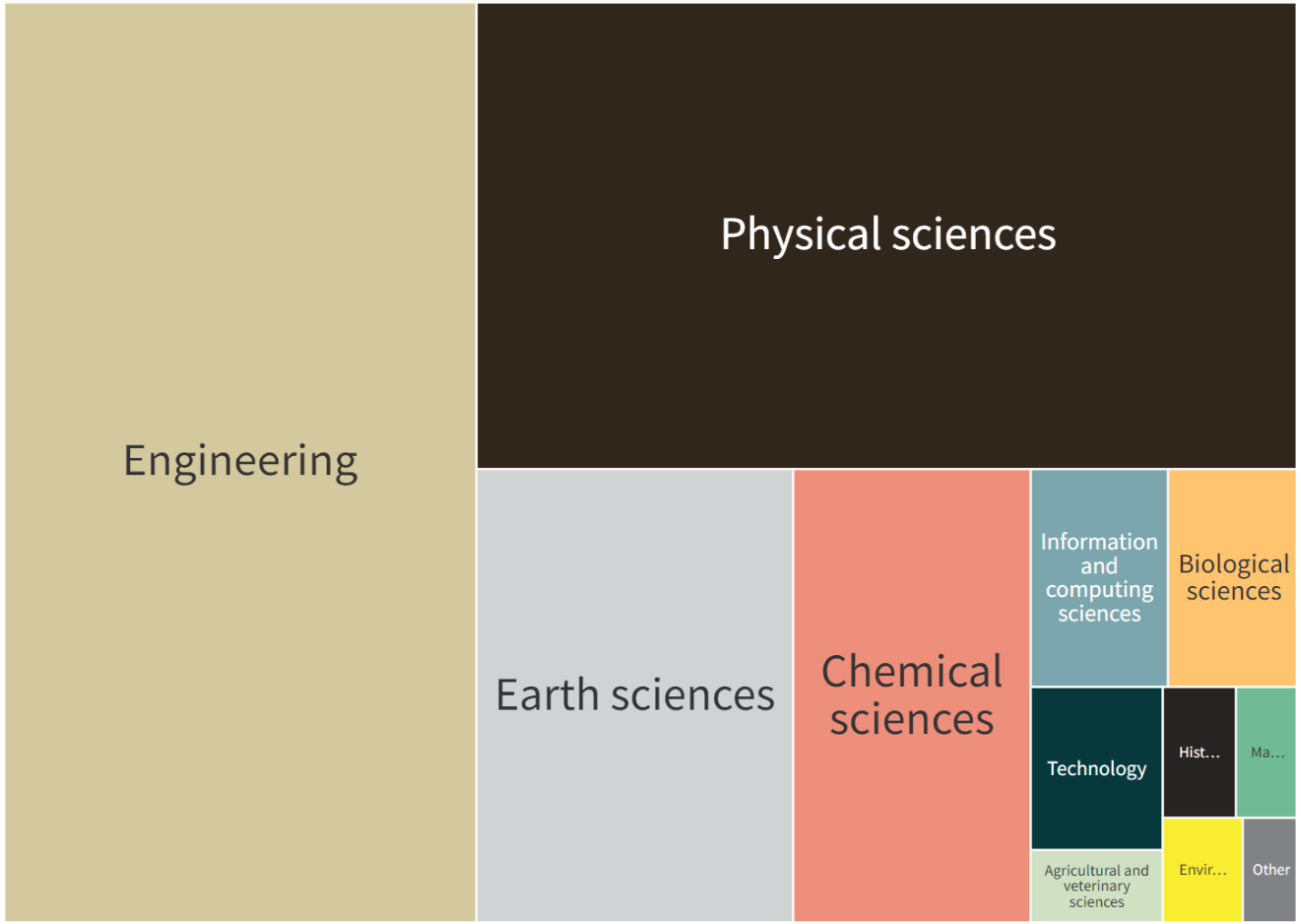
Setting the Scene

Computionally “heavy” projects / areas have historically consumed a lion’s share of HPC infrastructure, especially in supercomputing.

The questions we pose today are:

- What are the key barriers to entry and/or scaling for underrepresented (non-”traditional”) domains and/or cross-domains?
- What can we do to change this?

Let’s define terms, using examples. At Pawsey…



‘Traditional’ areas by FOR code. Time on System:

- Engineering: 36.5%
- Physical Sciences: 32.3%
- Earth Science: 12%
- Chemical Sciences: 9%

SUBTOTAL: 89.8%

Other areas by FOR code. Time on System:

- Info & Computing Sciences: 2.5%
- Biological Sciences: 2.4%
- Technology: 1.8%
- Ag & Veterinary Sciences: 0.8%
- History & Archeology: 0.7%
- Environment: 0.8%
- Mathematical Sciences: 0.7%
- Other: 0.5%

And, HPC training demands at NCI

'Traditional' domains. Attendees:

- Earth Sciences: 20.8%
- Engineering: 17.5%
- Biological Sciences: 12.5%
- Chemical Sciences: 6.7%
- Physical Sciences: 4.8%

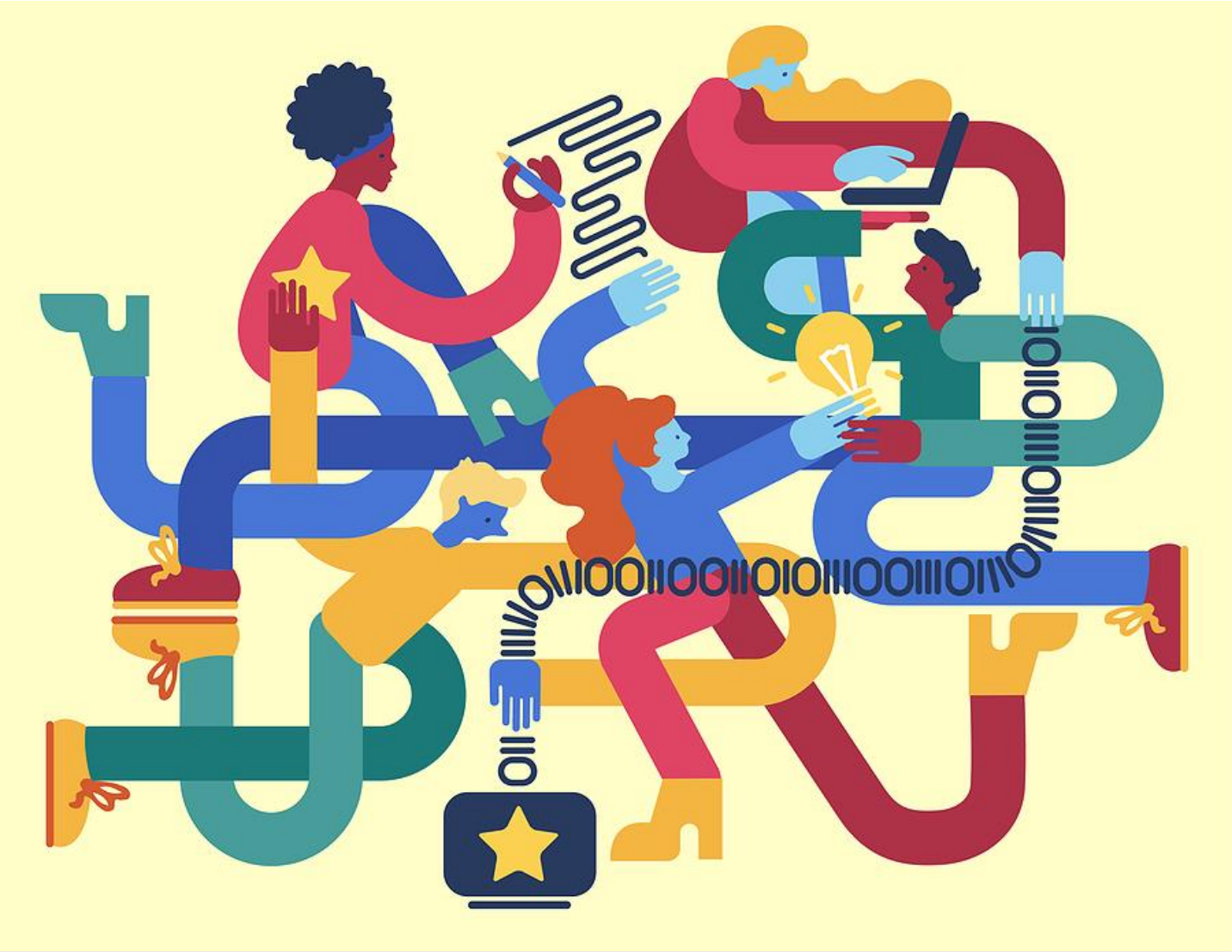
SUBTOTAL: 62.3%

Other domains. Attendees:

- Environmental Sciences: 8.9%
- Info & Computing Sciences: 6.7%
- Ag & Veterinary Sciences: 5.4%
- Health Sciences: 5%
- Biomedical and Clinical Sciences: 4.6%
- Mathematical Sciences: 3%
- Other: 5.2%

Who are you?

What’s your interest in this topic?



What barriers do you face in using HPC?

ACTIVITY: 15 min.
White flip charts / paper & post-its.

Write your perceived / experienced barriers in one or more areas of:

Science / Domain

Technology

Skills / People

What else?

What can you / we do to eliminate or lessen barriers?

How can you be enabled to use HPC?

ACTIVITY: 30 min (group & debrief)

Choose 1-2 barriers.

Work solo or in small groups.

Think of ways to eliminate or lessen your selected barrier.

- Who is responsible? Who contributes?
- What needs to happen?
- Is your suggestion short- or long-term?
- Is it feasible?
- Why might it work / not work?

What now?

Call to Action

We’d like to continue this discussion!

Scan the QR code to Opt-in!