

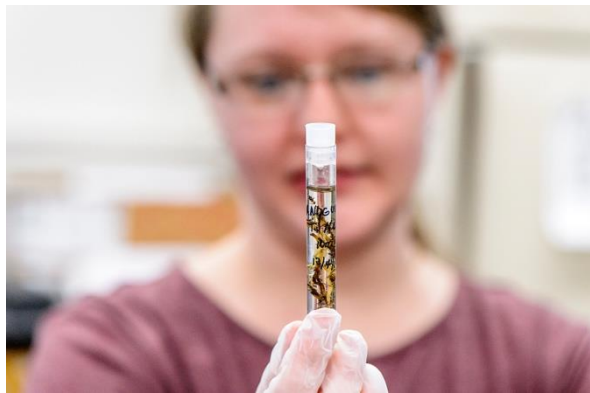
HTC and Your Research

Christina Koch
OSG School 2026
July 13, 2026



Reminder: Researcher Problems

Each researcher has a (non-ordered) list of **tasks** that would take too long to run sequentially on their local computer.



Running **analysis pipeline** for each sample.



Running a **simulation** for each parameter combination



Running millions of **simulations**.

Your Turn

In the worksheet, write down the following

- A one-sentence summary of your research
- A typical computational **task**
 - This should be the smallest *self-contained* piece of your workflow
- What is your list of tasks?
 - “I need to run <computational task> for each <list of inputs>”
- Estimate how computationally intense *one* task is
- How many tasks do you have?



Example



Scaling Out With HTC

Your Research

Describe your research in one sentence:

develop a model that can predict the best trial design

Your List of Tasks

What is a single, self-contained computational task that you need to run?

one run of my model

Is this task part of a larger pipeline? ☐ Yes ☒ No

Why does this task need to be run multiple times?

model runs for each input parameter from a list



What do you need to run **one** task?

Time	<i>4 hours</i>
Cores	<i>?? it runs on my laptop</i>
Memory (RAM)	<i>very small</i>
How much data?	<i>code is in R</i>
Anything else?	

How many tasks do you need to run?

*3 x 8 x 4 x 2
parameter combos*



Acknowledgements

This work was supported by the National Science Foundation under Cooperative Agreement OAC-2030508 – Partnership to Advance Throughput Computing (PATh)

