NeSI
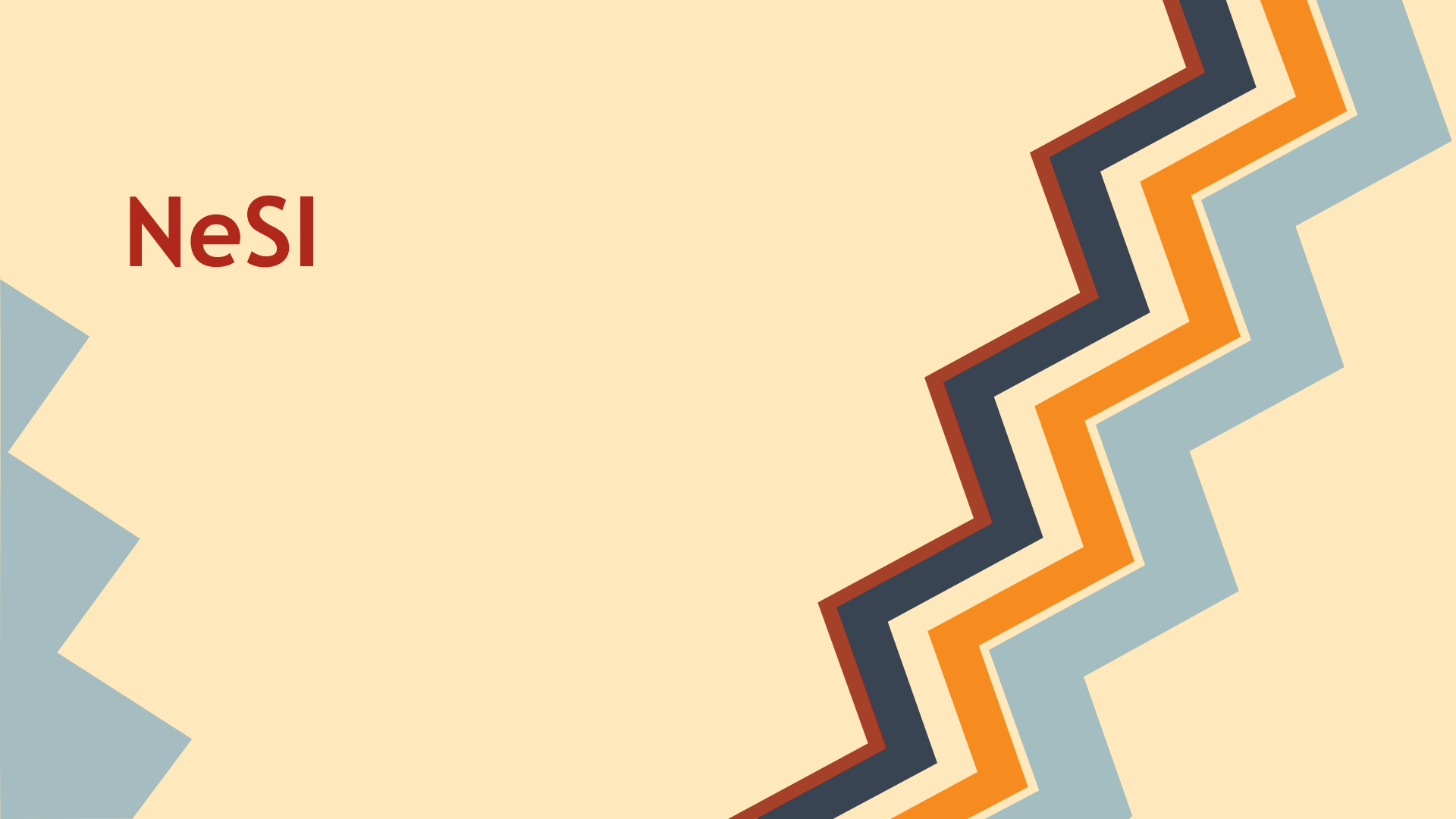
Compute available

BlueGene - few cores/node, low ram, fast network

FitzRoy/NIWA - high cores/node, med ram

Pan - lots of nodes, med ram

Pan Cluster

- 76 Westmere-EP nodes - 12 core, 96 Gb ram
- 236 Sandy Bridge nodes - 16 core, 128 Gb ram
- 42 Ivy Bridge nodes - 24 core, 128-256 Gb ram
- 2 "Build" nodes
- 4 "big mem" nodes - 20-24 core, 512 Gb ram
- 2 Phi nodes - 16 core, 120 phi, 128 Gb ram
- 21 GPU nodes - 2 NVIDIA GPUs/node

Access

- via Tuakiri using UoO credentials

-

- register at nesi.org.nz for project
- support: eresearch@nesi.org

pan:

- ssh to login node

Quotas

`show_my_projects`

`fs_my_quota_usage`

- Personal quota

2 Gb

- Project quota

30 Gb and 1,000,000 files

Need more? Ask and you shall (might) receive…

Storage

not backed up

run job -> download results

Personal/project quota

Temp storage:

Running jobs

submit jobs to a queue

jobs prioritised by resources needed and time

resource allocation uses SLURM

Running cont.

- Jobs will get killed if you exceed the resources you ask for

- always specify more ram than needed but not an excessive amount

- what you ask for dictates how long your job sits in queue

Queues

low- > 1 day

med - 1 day

high - < 6 hours

gpu - uses gpu

phi - uses phi co-processors

big mem - need big mem nodes

merit - priority queue for merit projects

SLURM

simple bash like script

submit: sbatch my_slurm_script.sl

head of script details slurm requirements

account, cpus, cores, memory/node, memory/core, num nodes, time, arch

SLURM scripts

```
#!/bin/bash
#SBATCH -J Serial_JOB          # job name
#SBATCH -A uoa99999            # Project Account
#SBATCH --time=01:00:00        # Walltime
#SBATCH --mem-per-cpu=8G       # max ram per cpu
srun my_job
```

Array jobs

```
#!/bin/bash
#SBATCH -J JobArray            # job name
#SBATCH --time=01:00:00        # Walltime
#SBATCH -A uoa99999            # Project Account
#SBATCH --mem-per-cpu=8G       # max ram per cpu
#SBATCH --array=1-1000         # Array definition
srun binary_array $SLURM_ARRAY_TASK_ID
```

Questions?