

# Parallel design patterns

## ARCHER course

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### Summary



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# The general idea

- The same concepts and problem types appear in many different places
- We don't want to waste time re-inventing the wheel
- Languages, machines and applications change frequently but ideas and concepts recur
  
- They should help you to think about a solution to a problem before any implementation in code
  - Rarely one right answer, often involves trade-offs

# Next steps.....

- Worked solutions for all the practical are available
  - So if you haven't yet had a chance to complete these then we suggest you do so
- The case study is an interesting exercise in using parallelism in a way you have possibly not done so before
- We are happy to chat with you about how these concepts and ideas relate to your own problem and possible ways of structuring the parallelism there

# Online resources

- <http://snir.cs.illinois.edu/patterns/patterns.pdf>
- <http://snir.cs.illinois.edu/PPP.html>
- [http://parallelcomp.github.io/Lecture4\\_2\(betterversion\).pdf](http://parallelcomp.github.io/Lecture4_2(betterversion).pdf)
- <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.51.5013&rep=rep1&type=pdf>
- <https://hillside.net/plop/plop2k/proceedings/Massingill/Massingill.pdf>
- <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.58.4709&rep=rep1&type=pdf>

# Questions after the course?

- Feel free to email us
  - [n.brown@epcc.ed.ac.uk](mailto:n.brown@epcc.ed.ac.uk)
  - [m.bareford@epcc.ed.ac.uk](mailto:m.bareford@epcc.ed.ac.uk)

# Getting access to ARCHER

- Standard research grant
  - Request Technical Assessment using form on ARCHER website
  - Submit completed TA with notional cost in Je-S
  - Apply for time for maximum of 3 years
- ARCHER Resource Allocation Panel (RAP)
  - Request Technical Assessment using form on ARCHER website
  - Submit completed TA with RAP form
  - Every 6 months
- Application for computer time only
  - Instant Access – Pump-Priming Time
  - Request Technical Assessment using form on ARCHER website
  - Submit completed TA with 2 page description of work

# ARCHER Driving Test

- [https://www.archer.ac.uk/training/course-material/online/driving\\_test.php](https://www.archer.ac.uk/training/course-material/online/driving_test.php)
- On successful completion of the Driving Test
  - invited to apply for an account and awarded an allowance of 1200 kAUs (80,000 core-hours) to use to run jobs over a period of up to 12 months.
- Test covers various specific features of ARCHER
  - see “Material specific to ARCHER” at <https://www.archer.ac.uk/training/course-material/online/index.php>



# Support

- Helpdesk
  - Email [support@archer.ac.uk](mailto:support@archer.ac.uk)
  - via ARCHER SAFE <http://www.archer.ac.uk/safe>
  - phone: +44 (0)131 650 5000
  - By post, to:  
ARCHER helpdesk  
EPCC  
James Clerk Maxwell Building  
Peter Guthrie Tait Road  
EDINBURGH EH9 3JZ
- <http://www.archer.ac.uk/documentation/>

# Feedback

- Please leave us feedback
  - <http://bit.ly/20181106-Parallel-Design-Oxford>
- You will also receive an email with this link and can also get to it from the ARCHER training page