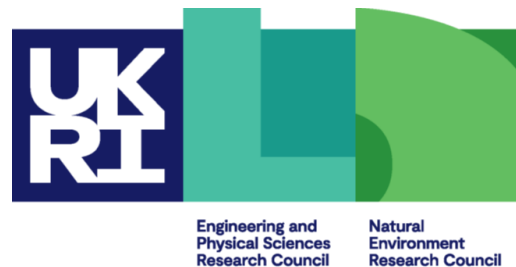


Online Training

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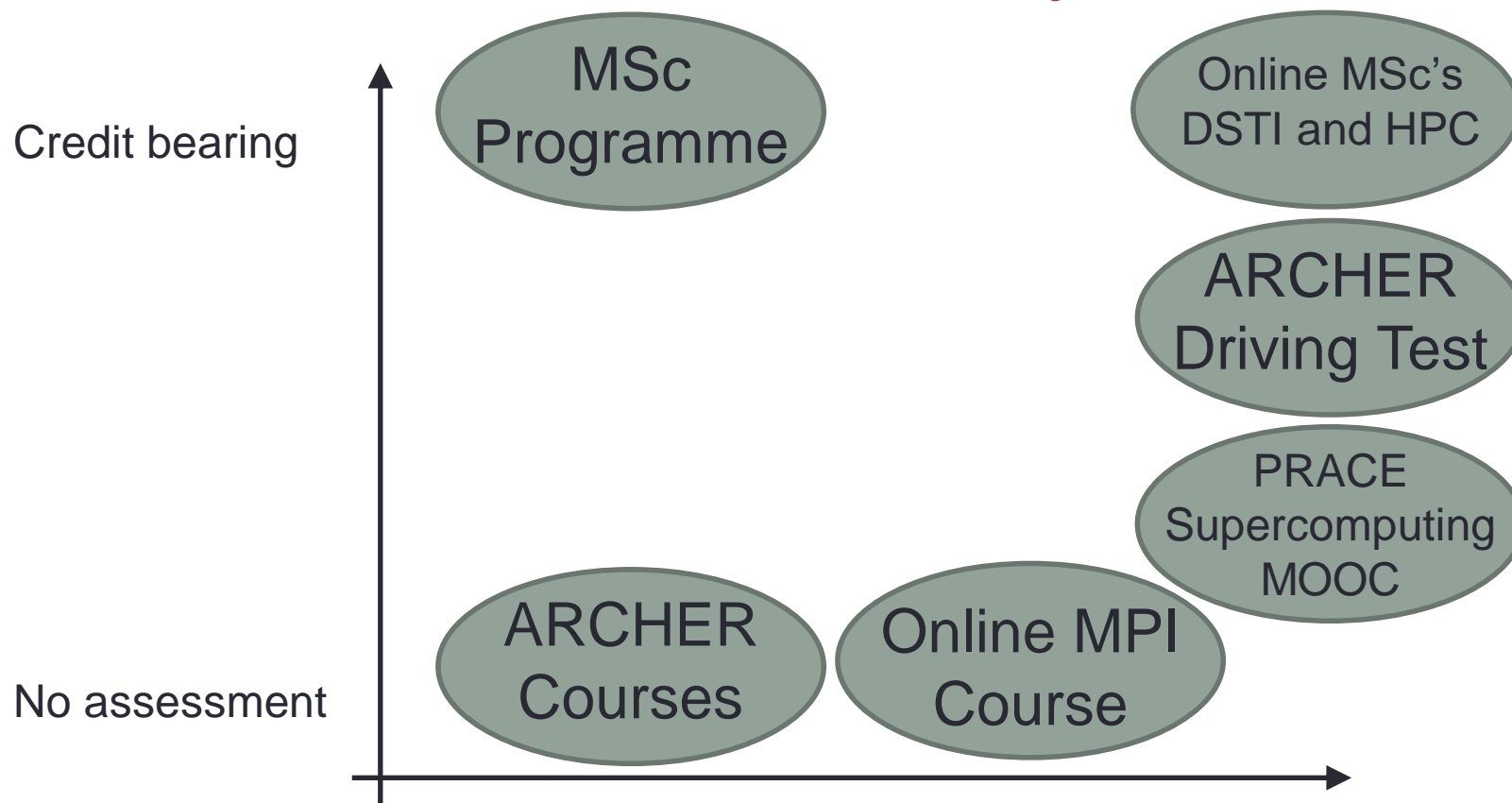
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Format

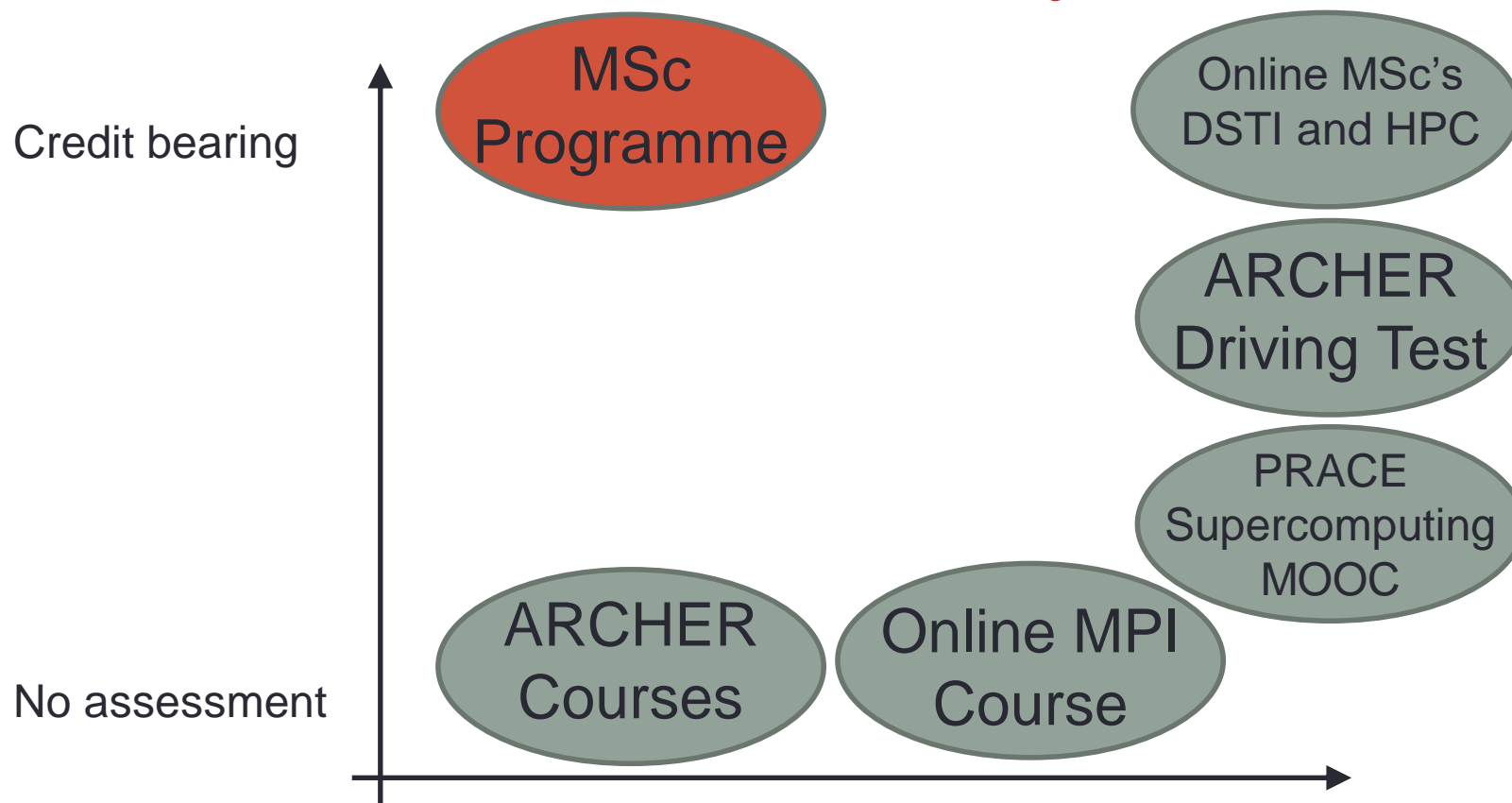
- Overview: David Henty
- Synchronous vs Asynchronous Delivery: Mark Bull
- Online MSc Programmes: Adam Carter
- Supercomputing MOOCs: Weronika Filingier



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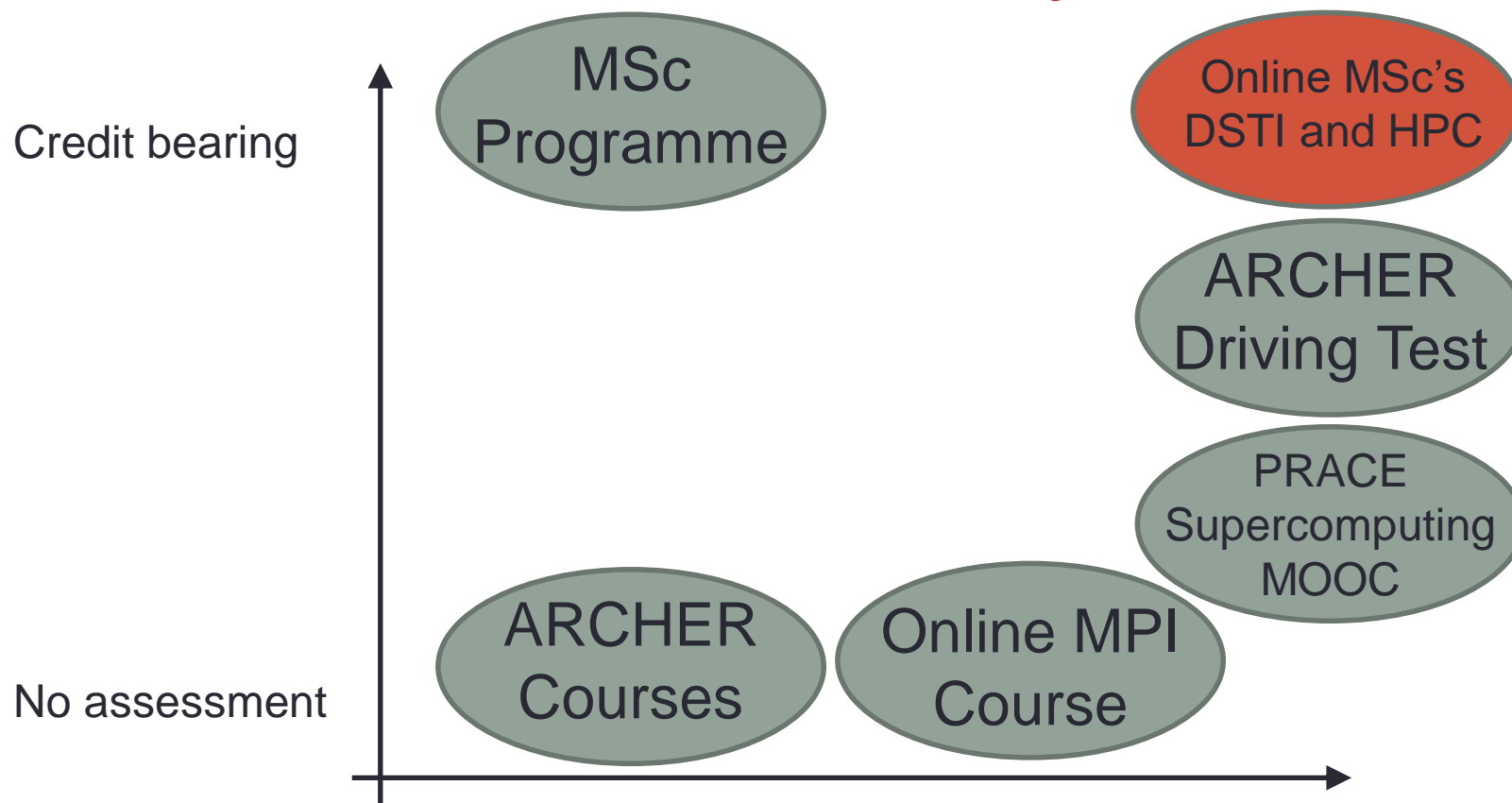


MSc in HPC / HPC with Data Science

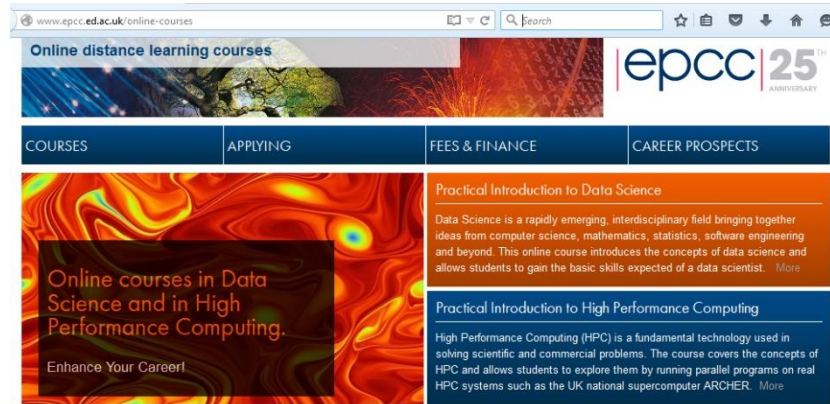
- Classical format residential taught Masters programme
 - fees are charged
 - over 70 students in 2019/20
 - lectures + lab sessions
- Students use Learn VLE
 - PDFs of lectures
 - all practical material
 - coursework submission
 - recordings of all lectures
- Collaborate for webinars
 - e.g. backup during “Beast from the east” and COVID-19



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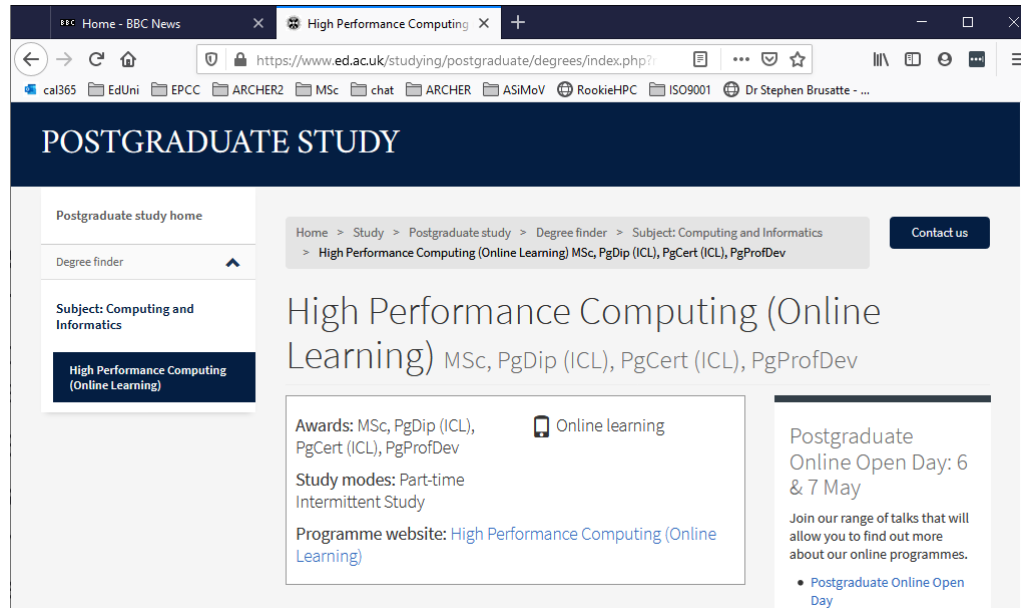
Online Masters: DSTI



- Currently run three courses under Data Science Technology and Innovation (DSTI) MSc programme
 - Practical Introduction to HPC; Practical Introduction to Data Science; Threaded Programming with OpenMP
- Entirely online via Learn with recorded lectures
 - fees charged; around 100 students across all courses
 - courses are 20+20+10 credits (out of 120 taught credits)
 - no exams – 100% coursework



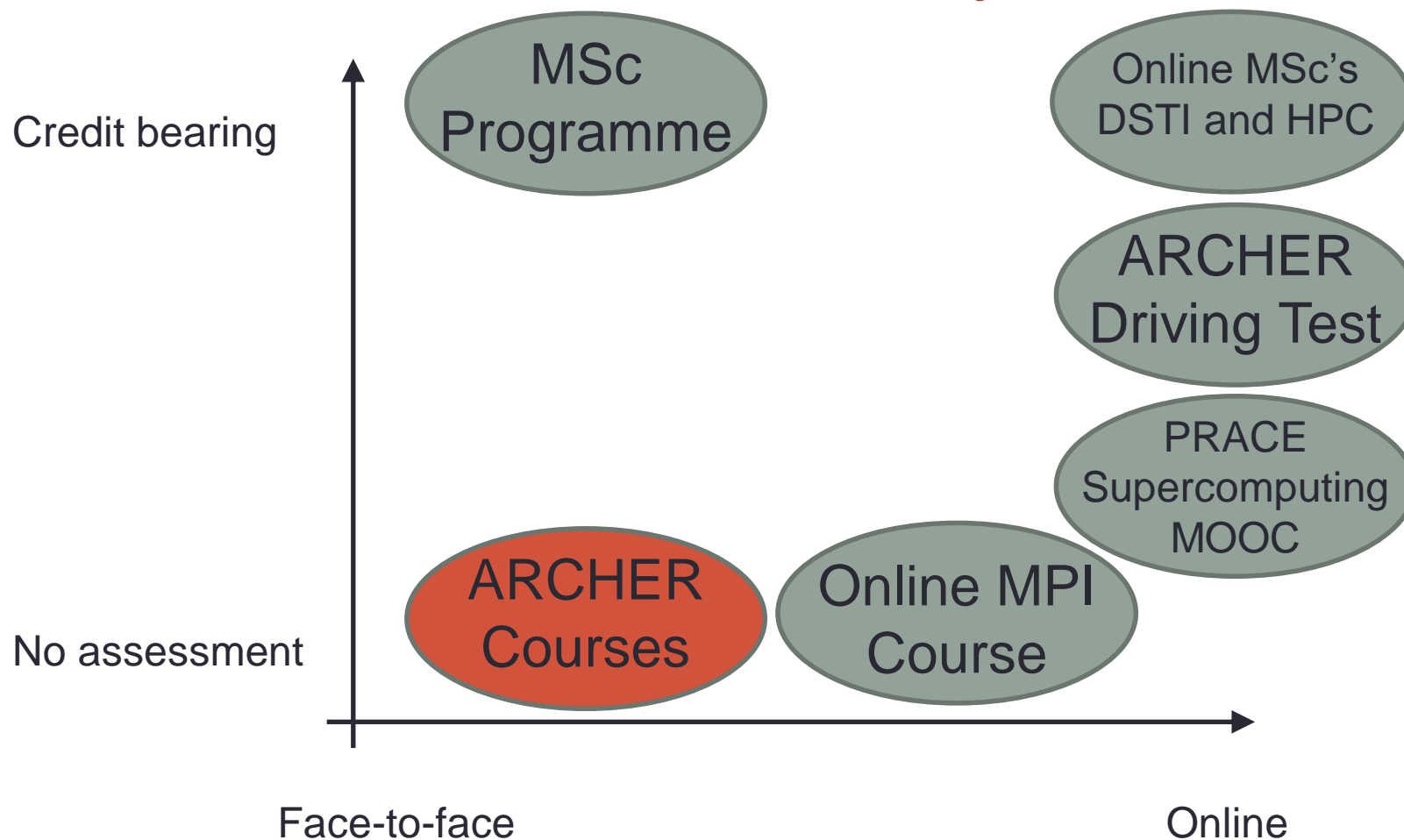
Online Masters: MSc in HPC



- Launching full MSc in HPC online programmes for 2020/21
 - building on experiences of existing HPC courses under DSTI
 - possibility of some online exams



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ARCHER Courses

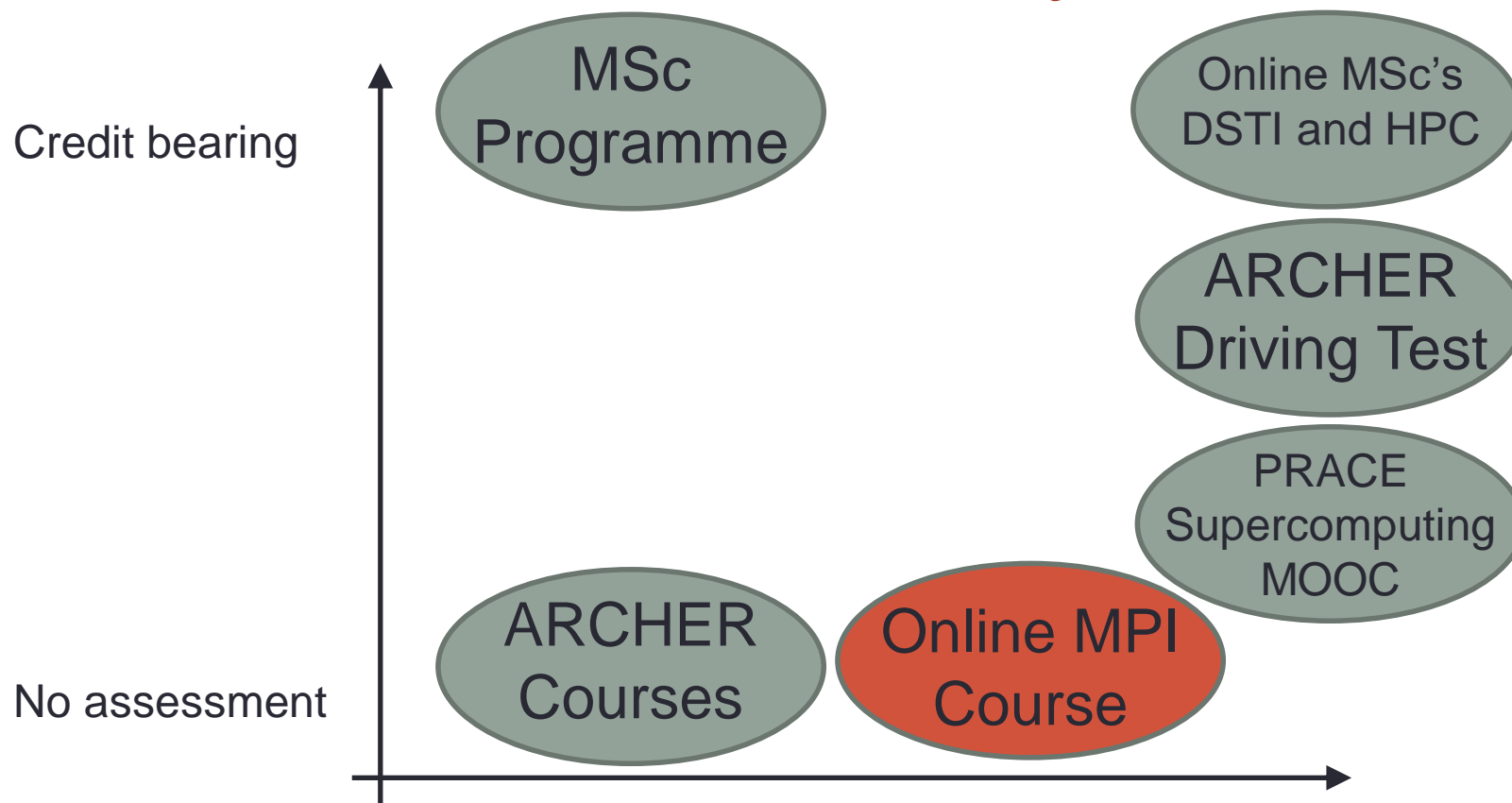
- Around 25 face-to-face courses per year
 - attendance ~20 students
 - material online and archived
 - free to academics
 - no assessment except certificate of attendance!



- How to deliver to a wider audience?
 - but maintain hands-on support for practical exercises?



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Format used by US XSEDE project

- Presenter + slides and video
 - around 25 dedicated sites
 - HD video + high quality audio
 - groups attend at each site
 - locals provide basic IT support
 - presenter does technical support
- ARCHER runs over Collaborate (c.f. Virtual Tutorials)
 - MPI over four Wednesday afternoons
 - ~50 attendees at start, ~25 at the end
 - a few groups at sites but mainly individuals
 - perhaps need to revisit practical support

ARCHER » Online MPI - Mozilla Firefox

www.archer.ac.uk

gcal TDL Twiki ISO9001 Rmine eExp

Week 1 (Wed 31st Jan)

Here is the [Exercise Sheet](#) for this course. Note that it may contain example course - see below the timetable for complete copies of all the material.

Although it is always best to try and write your own answers to the exercises,

- 13:30 [Welcome and overview](#)
- 13:45 [Message-Passing Concepts](#)
- 14:30 [Practical: Compiling and running an MPI program](#)

This talk updated since lecture to include more explicit download, c

- Here are simple test programs in [C](#), [C++](#) and [Fortran](#).
- 15:00 Break
- 15:30 [MPI Programs](#)
- 16:15 Practical: Hello World
- 17:00 Close

Week 1 Video

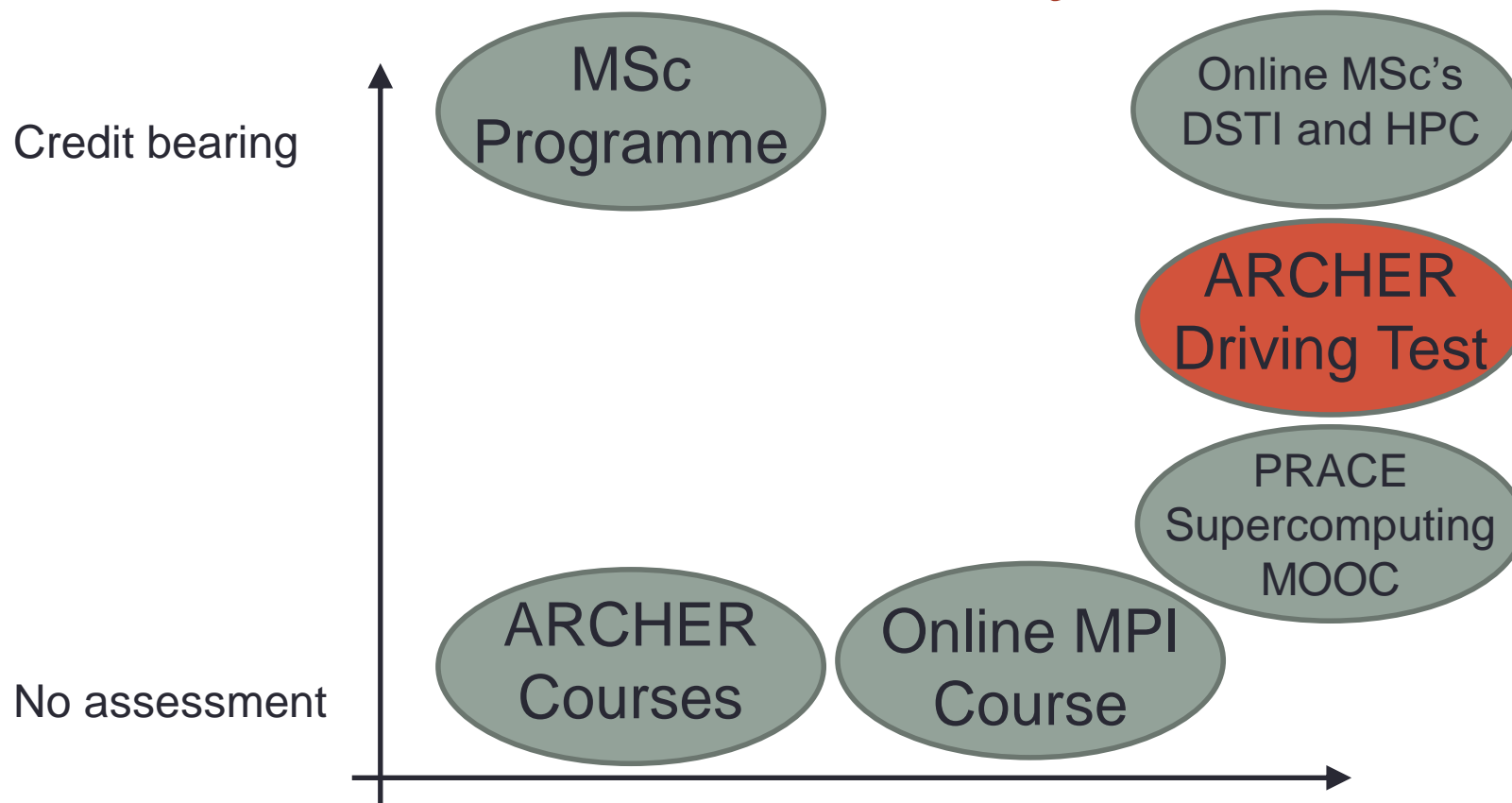
Webinar: Message-passing Program...

21:33 / 2:18:44

YouTube

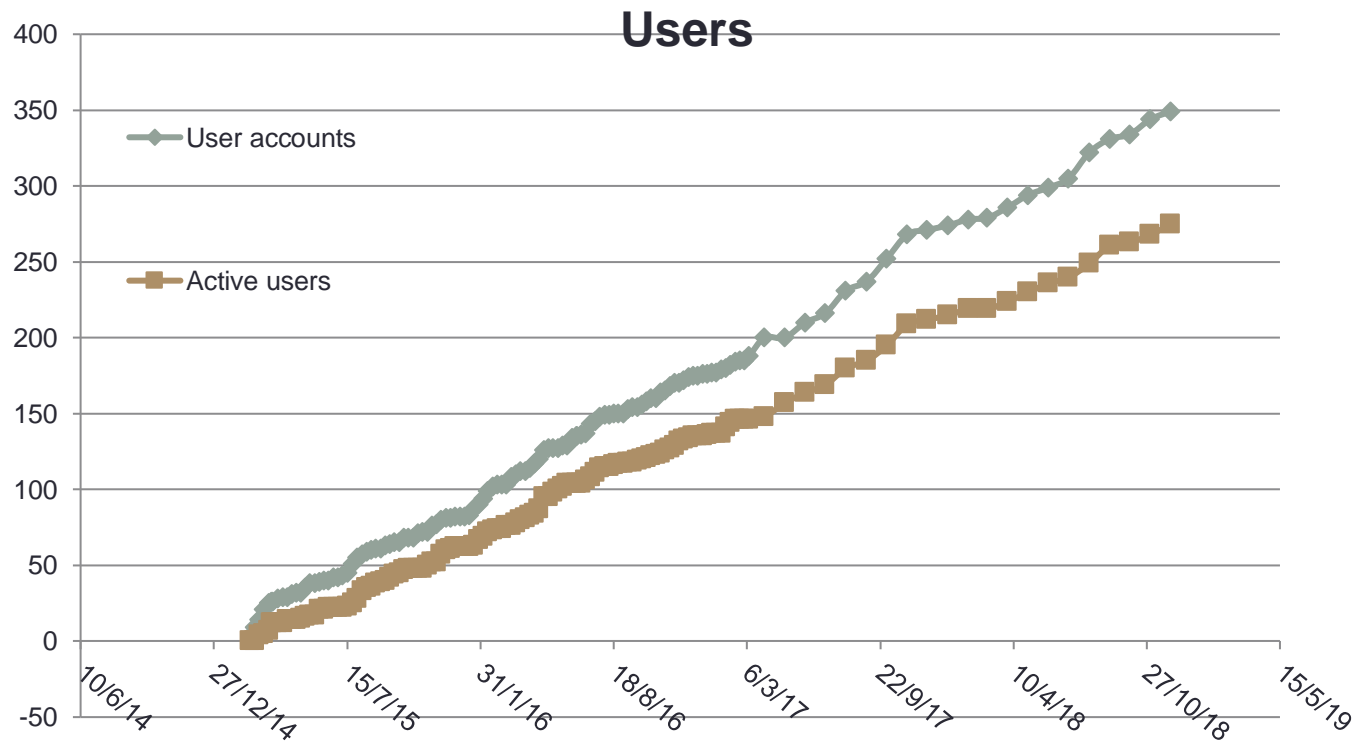


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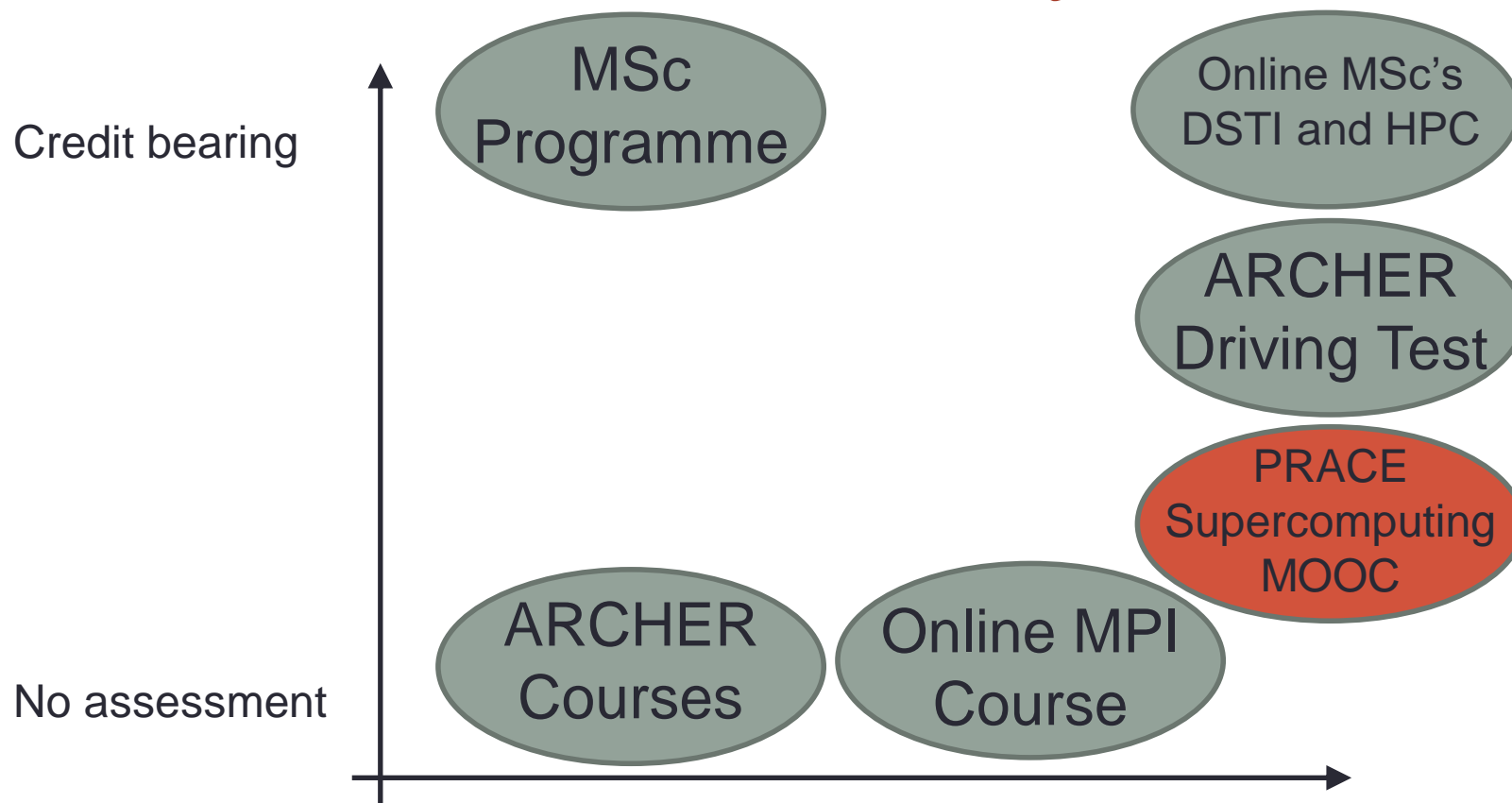


ARCHER driving test

- Around 500 users passed test to date
 - lecture recordings part of learning materials
 - online assessment



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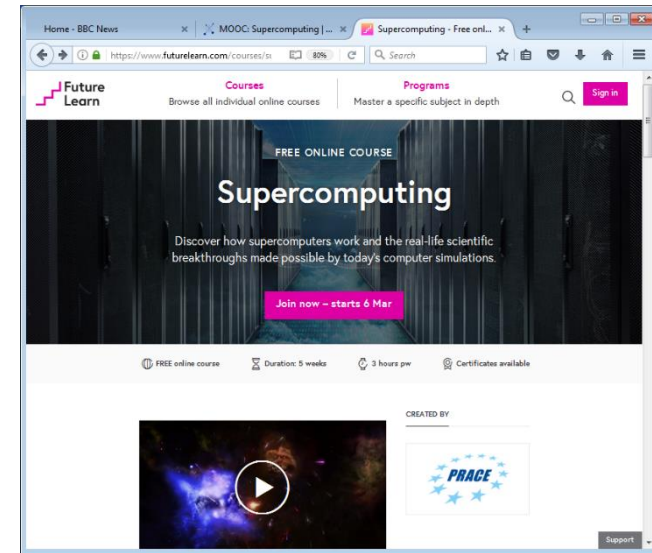
Face-to-face

Online



futurelearn.com/courses/supercomputing/

- Free introductory course
 - videos, articles, quizzes, discussion boards etc.
 - certificate upon completion of multiple choice test (+fee!)
 - largely conceptual
 - tutors contribute to discussions
 - “ask an expert” sessions
- Five runs: Feb 2017, Aug 2017, Jan 2018, Sep 2018, October 2019
 - approx joiners: 3000, 3000, 1500, 1000, 600
 - approx completion: around 10%



Chess video 2

Conclusions

- Technology has matured incredibly in the past 5 years
- Online training is a spectrum
- What doesn't seem to work
 - joint face-to-face and webcast is problematic
 - taking questions over audio
- What does work
 - community support on larger MOOCs
 - chat-based questions and discussions
 - screen-sharing for practical support

