IT Services
Supporting your research
A newsletter from the IT Services for Research (ITSfR) group

Welcome to issue #19, October 2014, in a regular series of updates on IT research support and facilities for postgraduates, researchers and academics of The University of Manchester.

Your main Faculty contact email addresses (for research computing support) are given on the last page; emailing your research computing queries this way will also automatically raise a job for you in the *Remedy* tracking system.

Routine work should continue to be submitted through the IT Service Desk on +44 (0) 161 306 5544 or via online submission at: www.manchester.ac.uk/servicedesk.

Web Page:
IT Services for Research
The web site for our support areas and all contact details is available here: www.its.manchester.ac.uk/research/.

Travel Fellowships to SC14 in New Orleans

The EPSRC funded "UK USA HPC Collaboration Network" recently invited UK researchers to apply for a limited number of travel fellowships to attend the world's highest profile Supercomputing conference "SC14", which is being held this November in New Orleans, USA.

The purpose of the fellowships is to foster new UK and US collaborations between researchers who use High Performance Computing. The initiative was started in 2013 when a special UK delegation was invited to visit key US facilities by the British Consulate General in Chicago and EPSRC. Dr Lee Margetts in IT Services is one of the leaders of this initiative along with colleagues from the University of Oxford, Imperial College, STFC and NAG Ltd.

Last year, Dr Neil Ashton in the School of MACE was one of the recipients of the SC13 travel fellowships. This enabled him to achieve his goal of meeting one of the principal engineers at NASA. Neil has since established a very productive research collaboration with the NASA CFD team.

We are delighted to report that, this year, three out of the twelve fellowships were awarded to researchers at The University of Manchester. Furthermore, these researchers are all PhD students: the only UK PhD students awarded the funding. The researchers are Jose David Arregui Mena (School of MACE), Zeqian Meng (School of Computer Science) and Ilia Pietri (School of Computer Science). In total, £10,000 in travel expenses has been awarded to Manchester.

There will be other opportunities during the year for Manchester researchers to receive support for collaboration with US researchers. Please contact Dr Lee Margetts if you would like help from the "UK-US-HPC Network" in making US links or accessing US facilities (lee.margetts@manchester.ac.uk).

Sign-up to support
Research Software

If you accept the Software Sustainability Institute's proposition that "*software is fundamental to research, or we will lose our ability to make groundbreaking discoveries*", please sign-up to their petition at change.org: https://www.change.org/p/everyone-in-the-research-community-we-must-accept-that-software-is-fundamental-to-research-or-we-will-lose-our-ability-to-make-groundbreaking-discoveries

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GPU, FPGA and Energy Efficient Compute

2:00 – 3:30 pm, Tuesday 25 November 2014
Room 2.220, University Place
Finger buffet from 1:30 pm

Researchers are invited to a discussion on how STFC are looking at "Energy Efficient Computing" and hearing from University of Manchester researchers on their own explorations in this area, in the next edition of the University's "GPU Club (gpu.manchester.ac.uk).

We welcome Neil Morgan, Programme Manager of The Hartree Centre's Energy Efficient Computing Research Programme who will outline this new initiative, its aims and road map.

Neil will be followed by Greg Kozikowski from The University of Manchester who will compare the computational performance and energy requirements of GPU and FPGA solutions for typical finance models.

GPUs are high-end graphics cards that can compute certain operations efficiently. FPGAs (Field Programmable Gate Arrays) allow researchers to reconfigure silicon for near specialised performances. The University provides access to these, and CPU solutions for high end compute.

A regular feature of the Club is to invite input from the audience. At this meet, we are inviting researchers to give 5 minute "pop-up" presentations, limited to a maximum of 2 slides, on relevant topics. If interested, please email michael.bane@manchester.ac.uk.

The HECToR Story

We include the information request below for UoM researchers who have used the national HPC facility: HECToR.

Telling the story of how research helps us to understand and shape the world around us is now more important than ever. The EPSRC have commissioned a study to demonstrate the impact which HECToR has had, both on academia and socio-economically. In order to tell that story in a robust and objective manner, we need to gather evidence and we are doing so via a number of steps. As well as building upon existing evidence and looking at how HEC is supported in other nations we are working with consortia coordinators, HECToR suppliers, bibliographic analysis experts and now we warmly invite you to participate in a survey of all HECToR users. Following the survey we will also develop a small number of illustrative case studies to complement the other forms of data gathering.

What we would like you to do: through this survey we hope you will tell us about what you have achieved using HECToR, we want to know all about academic achievements, new codes developed, codes refined, papers published (where these have not already been listed on ROS/ResearchFish),

international collaborations, any partnerships with business/the 3rd sector and of course any societal, economic, cultural, environmental, etc., impacts already achieved or in progress.

The results of this survey are key to providing representative data in the study report and therefore we urge you to be as full and accurate in your responses as possible. The EPSRC will use our report to make the case for future funding of research in general and HEC/HPC in particular, so it is vitally important that we are able to accurately and objectively communicate what has been achieved by HECToR users.

Who are we?

Putting together such a wide ranging impact study requires a wide skill set and so a consortium of professional impact and evaluation specialists has come together to deliver this, you can find out more about us at www.storyofhector.org and reach us via: storyofhector@researchconsulting.co.uk.

Communicating the difference which UK researchers are making is so important: we cannot do it without you. We thank you deeply for engaging with this study, giving us your time and the information which we need to make the case for UK research.

Thanks to the ARCHER team and the EPSRC we're able to offer 5 prizes of 1000KAus each on ARCHER. Winners will be drawn at random after the closing date (12.00 on Monday 3 November 2014) from all completed responses.

Please complete the HECToR users survey located at: www.surveygizmo.co.uk/s3/1829677/Telling-HECToR-s-story and thank you.

Becky Steliaros, Rob Johnson and Chris O'Brien
(the story of HECToR team)

Machine Evaluation Workshop

You are invited to register for the 25th Anniversary Machine Evaluation Workshop (MEW25), which will be held on 2 and 3 December 2014.

The event will be held at the Ricoh Arena, Coventry. As with previous MEWs there will be a full programme of technical presentations, an exhibition of the latest products and technology, and a series of parallel breakout sessions. The full timetable for the event will be displayed here as soon as it is confirmed.

The keynote presentation at MEW25 will be delivered by Richard Noble OBE (en.wikipedia.org/wiki/Richard_Noble).

You can register for MEW25 here: https://eventbooking.stfc.ac.uk/news-events/mew25.

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High Throughput Computing:
Throttling Condor Jobs

We have added a facility to the Condor service such that you can "Queue 1000" jobs (say) but only a small number will execute concurrently (assuming free cores). In the main, this is for jobs that transfer large amounts of data in or out of the pool of compute nodes, and which have recently caused network and other service issues. It doesn't need much data to be being transferred if 1000 jobs start or end at the same time.

A constant (BIGDATA) has been set to 10, but we now also have: THROTTLE20, THROTTLE50 and THROTTLE100 (with the obvious values). Please choose and use responsibly. An example submission would be:

condor_submit –a 'concurrency_limits=BIGDATA' submit.txt

And finally…

Last month's newsletter was downloaded – and hopefully read! – by 1,291 researchers. Although not our biggest circulation, it is the fastest growth to over 1000 downloads within a month of publication.

Next edition

The next edition of this newsletter will be circulated at the end of November 2014.

If you have any news to contribute, please contact Ian Cottam: ian.cottam@manchester.ac.uk before 25 November 2014.

Medical and Human Sciences:
MHS-ITResearch@manchester.ac.uk.

Life Sciences:
FLS-ITResearch@manchester.ac.uk.

Subject-specific Email Lists

Please note that these email lists are subject specific discussion forums, rather than a way of contacting IT. For the latter, please see the contact emails in the next section.

finite-elements@listserv.manchester.ac.uk

fortran@listserv.manchester.ac.uk

sciprogramming@listserv.manchester.ac.uk

university-gpuclub@listserv.manchester.ac.uk

Faculty Contact Emails

Humanities:
Hum-ITResearch@manchester.ac.uk.

Engineering and Physical Sciences:
EPS-ITResearch@manchester.ac.uk.

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