



University of Oxford Deploys U.K.'s Most Powerful GPU Supercomputer to Accelerate Scientific Research

Newest CUDA Center of Excellence, U.K. Researchers to Use "Emerald" System to Drive Discovery in Astrophysics, Genomics and Nanotechnology

OXFORD, United Kingdom—July 5, 2012—NVIDIA today announced that the [University of Oxford](#) and a consortium of top U.K.-based academic institutions have deployed the nation's most powerful GPU-accelerated supercomputer to enable advanced research across a range of scientific and engineering fields.

Unveiled this week at the newly established Center for Innovation in High Performance Computing (HPC) at the [STFC Rutherford Appleton Laboratory](#) in Didcot, the "Emerald" system is an 84-node cluster equipped with 372 NVIDIA® Tesla® M2090 GPUs, delivering more than 114 teraflops of performance.

Emerald was developed to enable scientists and engineers from across the United Kingdom to accelerate computationally intensive research in astrophysics, bioinformatics, chemistry, engineering, genomics, life sciences, nanotechnology, physics, and many other fields.

"The Emerald supercomputer forms part of the government's £145 million investment in e-infrastructure and will be an invaluable asset to business and universities," said David Willetts, Minister for Universities and Science. "It will drive growth and innovation, encourage inward investment in the UK and keep us at the very leading edge of science."

Established by the e-Infrastructure South Consortium, which includes the Universities of Oxford, [Bristol](#), and [Southampton](#) and [University College London](#), the Center for Innovation in High Performance Computing provides the infrastructure for the development of scientific and engineering applications, and will enable the training of HPC scientists and engineers.

The center's new GPU-accelerated Emerald supercomputer and other computing systems were funded as part of a £3.7 million (\$5.8 million USD) grant from the U.K. Engineering and Physical Sciences Research Council.

Oxford Named CUDA Center of Excellence

NVIDIA also announced that it has named the University of Oxford a CUDA Center of Excellence (CCOE) in recognition of its ongoing work in parallel computing research and education using NVIDIA GPUs and the NVIDIA CUDA® parallel programming environment.

A world leader in genetics, mathematics, scientific computing, and the physical and life sciences, Oxford joins 18 elite institutions that have demonstrated a unique vision for improving the technology and application of parallel computing, and are empowering academics and scientists to conduct world-changing research.

As a CUDA Center of Excellence, Oxford will utilize equipment and grants provided by NVIDIA to support a number of research and academic programs across its mathematics, physical and life sciences divisions, including:

- [Astrophysics](#) – real-time pulsar detection application for the forthcoming [Square Kilometre Array Project](#) to deploy the world's most powerful radio telescope
- [Bioinformatics](#) – analysis and statistical modeling of whole-genome sequencing data
- [Chemistry](#) – molecular dynamics simulations of key DNA nanotechnology mechanisms

"The CUDA Center of Excellence award reflects Oxford's strength in scientific computing, as well as the success of OeRC in

developing and championing new approaches to computing, while working with application specialists across the university to bring these benefits to their research,” said Professor Anne Trefethen, chief information officer at the University of Oxford. “With NVIDIA’s support, we can continue to enhance our undergraduate projects and summer bursaries focused on GPU computing, and develop new programs to reach larger numbers of researchers and students.”

The CUDA Center of Excellence program recognizes, rewards and fosters collaboration with leading institutions at the forefront of parallel computing research. For more information, visit the NVIDIA [CUDA Center of Excellence program website](#).

About CUDA

CUDA is NVIDIA’s parallel computing environment, which enables dramatic increases in computing performance by harnessing the power of GPUs. NVIDIA CUDA GPUs support all GPU computing programming models, APIs and languages. More than 580 universities and institutions worldwide teach the CUDA parallel programming model within their curriculum.

About NVIDIA Tesla GPUs

NVIDIA Tesla GPUs are massively parallel accelerators based on the NVIDIA CUDA parallel computing platform. Tesla GPUs are designed from the ground up for power-efficient, high performance computing, computational science and supercomputing, delivering dramatically higher application acceleration for a range of scientific and commercial applications than a CPU-only approach.

More information about NVIDIA Tesla GPUs is available at the [Tesla website](#). To learn more about CUDA or download the latest version, visit the [CUDA website](#). More NVIDIA news, company and product information, videos, images and other information is available at the [NVIDIA newsroom](#). You can also follow us on [Twitter \(@NVIDIATesla\)](#).

About NVIDIA

[NVIDIA](#) (NASDAQ: NVDA) awakened the world to computer graphics when it invented the [GPU](#) in 1999. Today, its [processors](#) power a broad range of products from [smartphones](#) to [supercomputers](#). NVIDIA’s [mobile processors](#) are used in [cell phones](#), [tablets](#) and [auto infotainment systems](#). [PC gamers](#) rely on GPUs to enjoy spectacularly immersive worlds. Professionals use them to create [3D graphics](#) and visual effects in movies and to design everything from golf clubs to jumbo jets. And researchers utilize GPUs to advance the frontiers of science with [high performance computing](#). The company has more than 5,000 patents issued, allowed or filed, including ones covering ideas essential to modern computing. For more information, see [www.nvidia.com](#).

###

Certain statements in this press release including, but not limited to, statements as to: the impact and benefits of the Emerald supercomputer and NVIDIA Tesla GPUs; usage by Oxford of equipment and grants provided by NVIDIA; and the effects of the company’s patents on modern computing are forward-looking statements that are subject to risks and uncertainties that could cause results to be materially different than expectations. Important factors that could cause actual results to differ materially include: global economic conditions; our reliance on third parties to manufacture, assemble, package and test our products; the impact of technological development and competition; development of new products and technologies or enhancements to our existing product and technologies; market acceptance of our products or our partners products; design, manufacturing or software defects; changes in consumer preferences or demands; changes in industry standards and interfaces; unexpected loss of performance of our products or technologies when integrated into systems; as well as other factors detailed from time to time in the reports NVIDIA files with the Securities and Exchange Commission, or SEC, including its Form 10-Q for the fiscal period ended April 29, 2012. Copies of reports filed with the SEC are posted on the company’s website and are available from NVIDIA without charge. These forward-looking statements are not guarantees of future performance and speak only as of the date hereof, and, except as required by law, NVIDIA disclaims any obligation to update these forward-looking statements to reflect future events or circumstances.

© 2012 NVIDIA Corporation. All rights reserved. NVIDIA, the NVIDIA logo, CUDA and Tesla are trademarks and/or registered trademarks of NVIDIA Corporation in the U.S. and other countries. Other company and product names may be trademarks of the respective companies with which they are associated. Features, pricing, availability, and specifications are subject to change without notice.

Ken Brown
Corporate Communications
+1-408-486-2626
kebrown@nvidia.com