



For Immediate Release:

## **EM Photonics Releases CULA 2.0 to support latest Fermi-based NVIDIA GPUs**

*Accelerate Applications Using a Comprehensive and Easy to Use Linear Algebra Library with Highly Optimized Double Precision Performance*

**Newark, Delaware — July 9, 2010—** EM Photonics, Inc., announced today the general availability of CULA 2.0, its GPU-accelerated linear algebra library used by thousands of developers and scientists worldwide. The new version provides support for NVIDIA GPUs based on the latest “Fermi” architecture, which offers HPC users unprecedented performance in double-precision mathematics, faster memory, and new usability features.

“The Tesla 20-series GPUs deliver a huge increase in double precision performance,” said Andy Keane, General Manager for the Tesla high-performance computing group at NVIDIA. “The LAPACK functionality provided by CULA is critical to many applications ranging from computer-aided engineering and medical image reconstruction to climate change models, financial analysis and more. This new release is great news for developers who can easily accelerate their application with CULA 2.0,” he added.

“CULA 2.0 is the next step in the evolution of our product, where we can finally show strong double precision performance to complement our already impressive single precision speeds. Users of older GPUs will also see performance improvements as well as new routines and increased accuracy. As we continue tuning our CULA library for Fermi, users can expect to see even better performance as well as new features in the next few months,” said Eric Kelmelis, CEO of EM Photonics.

### **Product Features**

CULA contains a LAPACK interface comprised of over 150 mathematical routines from the industry standard for computational linear algebra, LAPACK. EM Photonics’ CULA library includes many popular routines including system solvers, least squares solvers, orthogonal factorizations, eigenvalue routines, and singular value decompositions.

CULA offers performance up to a magnitude faster than highly optimized CPU-based linear algebra solvers. There is a variety of different interfaces available to integrate directly into your existing code.

Programmers can easily call GPU-accelerated CULA from their C/C++, FORTRAN, MATLAB, or Python codes. This can all be done with no GPU programming experience. CULA is available for every system equipped with GPUs based on the NVIDIA CUDA architecture. This includes 32- and 64-bit versions of Linux, Windows, and OS X.

### **Pricing & Availability**

CULA is available in three different versions: Basic, Premium and Commercial. CULA Basic is free of charge and includes six of the most popular LAPACK routines in single and single-complex precisions. CULA Premium costs \$395 and is a significantly more robust version with additional routines in single,

double, single-complex, and double-complex precisions. CULA Commercial pricing is available upon request. For complete details, please visit [www.culatools.com](http://www.culatools.com).

#### **About CULA™**

CULAtools™ is EM Photonics' product family comprised of CULA™ Basic, Premium, and Commercial. CULA is our GPU-accelerated implementation of the LAPACK numerical linear algebra library, containing several of the most popular LAPACK functions. After developing accelerated linear algebra solvers since 2004 for our clients, EM Photonics partnered with NASA Ames Research Center in 2007 to extend and unify these libraries into a single, GPU-accelerated package. Through a partnership with NVIDIA®, we focused on developing a commercially available implementation of accelerated LAPACK routines. Our primary goal is to help a wide range of users experience computational performance previously available only on supercomputers. By leveraging NVIDIA's CUDA™ architecture, CULA provides users linear algebra functions with unsurpassed performance.

#### **About EM Photonics**

Headquartered in Newark, Delaware, EM Photonics is a recognized leader in implementing computationally intense algorithms on commodity hardware platforms. Utilizing the state of the art in off-the-shelf hardware including GPUs and FPGAs, EM Photonics accelerates their clients' applications to achieve better, faster results. The company also offers consulting services and custom-designed tools to commercial, government, and academic organizations seeking to optimize their scientific computing, image processing, and numerical analysis applications.

#### **For more information, contact:**

Liana Barbedo

(302) 456-9003

[barbedo@emphotonics.com](mailto:barbedo@emphotonics.com)