FOR IMMEDIATE RELEASE
May 24, 2022

Contact: Jan Kotila for Javed I. Khan, PhD
Email: jkotila@kent.edu / javed@kent.edu
Phone: 330-672-9044 (Jan)

GRANT TO DEVELOP SHARABLE HIGH-PERFORMANCE CYBERCLUSTER DESIGNED TO DRIVE DATA AND COMPUTING INTENSIVE COLLABORATIVE INNOVATION

The very promise of ‘internet’ from its inception (ARPANET!) is the sharing of science computing resources. Professor Javed I. Khan, a researcher in intelligent cyberinfrastructure in the Department of Computer Science, and his team have just been awarded a $400,000 grant from the National Science Foundation to design a new generation agile locally and globally sharable HPCC (High-Performance Computing Cluster). It will be integrated with national science computing facilities, including the Open Science Grid (OSG), by creatively using recent advances in federated science networking and distributed systems.

The project has several notable features. Firstly, its design will support and study interesting and newly emerging collaborative science workflows- especially data lakes and real-time computing. This NSF-funded experimental facility will be technically designed to be seamlessly usable by faculty researchers engaged in massive data-intensive collaborative science. from Kent State and its eight regional campuses, other Ohio colleges, and beyond. This new system is to be fronted by a 100-Gbps Data Transfer Node (DTN) facility capable of ‘friction-free’ long-haul transferring massive datasets recently commissioned by Dr. Khan’s team through another current NSF award.

“We are excited! As we enter the era of intelligent cyberinfrastructure, this work will be contributing to NSF’s goals to foster innovation, integration, and engineering of new campus-level networking and computing that can assertively support widely collaborative, cross-campus massive-data driven research,” said Khan. The Cybercluster will also harness unused compute
cycles and resources across the global academic fabric. It is aimed to leverage a compelling set of science projects from a wide variety of disciplines.

Dr. Khan’s engineering team will be joined by some of the top engineers from KSU’s Information Technology division led by Phil Thomas, and with OARnet- Ohio Advance Research Networks of Ohio, the Open Science Grid team of University of Wisconsin, and EPOC-International Networks of Indiana University. For seamless sharing and unimpeded large data transfer the associated hardware will be in the Science.DMZ enclave directly connected to OARnet’s advanced optical network. “The Ohio Academic Resources Network (OARnet) is proud to support Kent State’s NSF CCI cluster research initiative, which will make excellent use of our statewide terabit-capable backbone and 400 Gbps connectivity to the Internet2 national research network”, said Pankaj Shah the CEO of OARNET.

“It is great to work with advanced networking researchers and partner for new cyberinfrastructure opportunities like this one,” said John Rathje, VP of Kent State Information Technology and CIO.

Professor Khan is also serving as the Chair of the Computer Science Department. Dr. Khan, an internationally active expert in cyberinfrastructure, has been massively funded and contributed to the establishment of advance National Research and Education Networks (NRENs) in multiple counties in Asia and Africa. More information about this project and his research is available at https://www.kent.edu/cs/global-circ/cybercluster and http://medianet.kent.edu.