



4th HPCAC-ISC STUDENT CLUSTER COMPETITION 2015

Date: 11-15 July, 2015.

Venue: Frankfurt, Germany.

Team Name: Jamia Millia Islamia University

Team Members: Vipul Nayyar, Umar Ahmad, Deepanshu Bhatia, Akif Khan Yusufzai, Moonis Javed, Md Safiyat Reza.

Advisors: Dr. Bashir Alam, Mr. Umesh Gupta

Team Sponsors: Boston Ltd., RSC-Tech, Synthreads Computing.

The 4th HPCAC-ISC Student Cluster Competition was held in Frankfurt, Germany, where more than 2,600 attendees and 160 exhibitors from around the globe met in an opportunity to showcase student expertise in a friendly yet spirited competition.

The JMI team was the first to represent an Indian university. It harnessed Boston's latest technology in a set of complex challenges amongst students from all over the world. The team went head to head against 10 other teams and using Boston hardware optimised a small cluster of their own to demonstrate the greatest performance across a series of benchmarks and applications with a strong focus on energy efficiency.

JMI won the LINPACK award with a record breaking score of 10.78 teraFLOPS which translated into an energy efficient 3.59 teraFLOPS per kilowatt, enough to achieve an estimated rank of 6 on the Green500, a list of the most energy efficient supercomputers in the world. JMI have beaten the 10.18 Tflop record previously set by 2014 team EPCC from the University of Edinburgh.

The JMI team were equipped with a high performance Boston GPU cluster fitted with a Rack DCLC AHx20 liquid cooling solution from CoolIT Systems. The system consisted of four 1U Boston Venom servers, each utilizing two Intel Xeon "Haswell-EP" processors, two NVIDIA K80 Tesla GPUs and Mellanox EDR IB connectivity coupled to a Mellanox EDR switched fabric. Direct Contact Liquid Cooling technology by CoolIT Systems was also used to cool critical system components resulting in a lower overall power draw.

