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FAU Students Win Highest Linpack Award at ISC17's Student Cluster Competition

Frankfurt, Germany, June 23, 2017— GCS sponsored team FAU Boyzz, six students of Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany (FAU), walked away from the Student Cluster Competition (SCC), held in the framework of the International Supercomputing Conference 2017 (ISC), with a highly coveted championship title. Team FAU Boyzz, featuring bachelor students studying computational engineering, computer science, and medical engineering, captured the trophy for the hotly competed SCC High Performance Linpack (HPL) benchmark challenge. The amazing HPL score of 37,05 Teraflops (1 Teraflop = 1 trillion floating point operations per second), delivered on the student's self assembled Hewlett Packard Enterprise (HPE) cluster featuring 12 NVIDIA P100 GPUs, marks a new all time high in the history of ISC's SCC. The score almost triples the result of the previous year's SCC LINPACK high mark achieved at ISC.

The HPL benchmark traditionally enjoys special attention amongst the challenges the student teams face in the course of a gruelling three-day ambitious competition which is an integral part of the annually recurring ISC, the international counterpart of the worlds largest HPC conference SC held in the US.

"This competition is quite fun and quite challenging," said Jannis Wolf, team captain of FAU Boyzz. "We have been preparing for this for a year, and we've met people that we otherwise never would have—our team had different disciplines coming together."

Through the contest, teams of undergraduate students are exposed to a variety of application codes and asked to solve a variety of problems related to HPC. In addition to application performance, teams are judged on their clusters' energy efficiency and power consumption, application performance and accuracy, and interviews by subject matter experts assessing their knowledge of their systems and applications.

"One of the best parts is the practical knowledge that comes from this process," said team member Lukas Maron. Indeed, the teams are given real-world applications, and work closely with mentors who are already active in the HPC community. This type of experience is invaluable for students' future career prospects, and also for exposing them to possible new avenues to explore.

"I think this is a great opportunity for students to get a feeling for what it is like at an HPC conference, to deal with a wide variety of applications, and to get be able to design a cluster from scratch," said FAU researcher and team mentor Alexander Ditter. "Of course, it would not be possible for us to participate in these kind of friendly competitions were there no support from the research community as well as the industry. Thus I deliberately would like to express big thanks to our sponsors GCS and SPPEXA who helped us financially, and to our hardware sponsors HPE and NVIDIA. We hope our success made them proud."

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The complete list of teams participating in the ISC Student Cluster Competition are represented by:

- Centre for High Performance Computing, (South Africa)
- Nanyang Technological University (Singapore)
- EPCC University of Edinburgh (UK)
- Friedrich-Alexander University Erlangen–Nuremberg (Germany)
- University of Hamburg (Germany)
- National Energy Research Scientific Computing Center (USA)
- Universitat Politècnica De Catalunya Barcelona Tech (Spain)
- Purdue and Northeastern University (USA)
- The Boston Green Team (Boston University, Harvard University, Massachusetts Institute of Technology (MIT), University of Massachusetts – Boston (UMass Boston) (USA)
- Beihang University (China)
- Tsinghua University (China)

"The Gauss Centre for Supercomputing, who by definition is highly interested in drawing young talent's attention toward High Performance Computing, is always open to support up and coming HPC talent, also in the framework of these kind events," explains Claus Axel Müller, Managing Director of the GCS. "We are well aware of the financial constraints students are facing when trying to participate in international competition, especially if travel and related expenses are involved. Thus we are happy to be of help, and we would like to sincerely congratulate the FAU Boyzz for their great achievements at ISC."

Team FAU Boyzz of Friedrich-Alexander-Universität Erlangen-Nürnberg, proud winner of the LINPACK benchmark challenge at ISC17's SCC. From left: Phillip Suffa, team captain Jannis Wolf, Benedikt Oehlrich, Lukas Maron, Fabian Fleischer, Egon Araujo. (c) GCS

About GCS: The Gauss Centre for Supercomputing (GCS) combines the three German national supercomputing centres HLRS (High Performance Computing Center Stuttgart), JSC (Jülich Supercomputing Centre), and LRZ (Leibniz Supercomputing Centre, Garching near Munich) into Germany's integrated Tier-0 supercomputing institution. Together, the three centres provide the largest, most powerful supercomputing

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disciplines. They also provide top-tier training and education for the national as well as the European High Performance Computing (HPC) community. GCS is the German member of PRACE (Partnership for Advanced Computing in Europe), an international non-profit association consisting of 24 member countries, whose representative organizations create a pan-European supercomputing infrastructure, providing access to computing and data management resources and services for large-scale scientific and engineering applications at the highest performance level.

GCS is jointly funded by the German Federal Ministry of Education and Research and the federal states of Baden-Württemberg, Bavaria, and North Rhine-Westphalia. It is headquartered in Berlin, Germany. For more information, please visit www.gauss-centre.eu.

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