



Press release

For release: 28 February 2013

PRACE 6th Regular Call: growing scientific wingspan

PRACE awarded time on 6 Tier-0 HPC systems to 57 research projects, some of which have been allocated record amounts of core hours or have significant links to the most ambitious current European scientific efforts. One project feeds into the EU FET (Future & Emerging Technologies) Flagship “Graphene”, two others are linked to ERC (European Research Council) grants and an additional one to the LHC (Large Hadron Collider). Three awards were made to projects led by industrial researchers and a further two included collaborators from industry.

The 6th PRACE Regular Call for Proposals, which was open from 18 September 2012 to 14 November 2012, received 88 applications for time on one or more of the 6 PRACE systems offered (www.prace-ri.eu/PRACE-Resources). Abstracts and additional information on the 57 projects that were awarded is published on the PRACE website: www.prace-ri.eu/Regular-Access

The largest allocations of the 6th Regular Call are:

Chemical Sciences & Materials

- Prof. Geert-Jan Kroes (University of Leiden, The Netherlands): 25 million core hours on MareNostrum @ BSC, Spain

Engineering, Mathematics & Computational Sciences

- Marc Pariente (Renault SAS, France): 42 million core hours on CURIE @ GENCI/CEA, France
- Prof. Christophe Prud’homme (University of Strasbourg, France): 60 million core hours on SuperMUC @ GCS/LRZ, Germany

Biochemistry & Life Sciences

- Prof. Ilpo Vattulainen (Tampere University of Technology, Finland): 60 million core hours on Hermit @ GCS/HLRS, Germany

Fundamental physics

- Prof. Zoltan Fodor (Bergische Universität Wuppertal, Germany): 91 million core hours on JUQUEEN @ GCS/Jülich, Germany
- Dr. Sandor Katz (Eotvos University, Hungary): 74.4 million core hours on FERMI @ CINECA, Italy

Among the allocations of the 6th Regular Call are a number of projects linked to large international scientific efforts:

- A project in chemical sciences & materials by Prof. Stephan Roche of ICREA, Spain is linked to the EU FET Graphene Flagship (<http://www.graphene-flagship.eu>) and received 14.4 million core hours on CURIE.
- Two projects in Engineering and Energy – one led by Prof. Dumbser and one led by Dr. Simone Camarri are linked to large ERC grants (<http://erc.europa.eu/funding-and-grants>): the former to the STiMuLuS Starting Grant, the latter to AFRODITE, which received a Starting Independent Researcher grant. PRACE allocated 15 million core hours on FERMI to Dr. Camarri and 3 million core hours on SuperMUC to Prof. Dumbser. This later one requires limited number of hours, but very large number of processors in each execution.

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- The project of Pr. Rummukainen (University of Helsinki) studies two candidates for conformal theories, which are ingredients for a candidate theory for new physics possibly found at LHC (CERN): Technicolor, one of the most popular extensions of the Standard Model. PRACE allocated 50 million core hours on FERMI to this ground-breaking research.

Furthermore, the project by Dr. Haugboelle (University of Copenhagen) will produce high-level numerical interpretations of the observational maps that come, and will come, from two very important international projects, namely Herschel and ALMA. Thus, this European team will maintain their globally recognised leading position in understanding star formation and is supported by a PRACE allocation of 75 million core hours on JUQUEEN.

Through its Open R&D model, PRACE invites industry to participate in the Regular Calls, either as principal investigators or as collaborators. Through the 6th Call allocated 3 projects with principal investigators from industry as well as 2 projects led by academia in collaboration with industry were granted allocations:

Industry as Principal Investigator

- A project on optimisation of car-crash modelling led by Marc Pariente from Renault SAS received 42 million core hours on CURIE.
- A study of extreme rainfall events causing pluvial flooding in the Netherlands led by Dr. Bruno Guillaume from ARIA Technologies was allocated 6 million core hours on CURIE.
- A simulation of external hydrodynamic flows in automotive industry to accurately predict the risks caused by water (such as aquaplaning) will receive 8.2 million core hours on CURIE. Dr. Matthieu de Lefte of HydrOcean will lead this research.

Industry as collaborator

- Sciences Computers Consultants collaborates with MINES-ParisTech on a project promoting HPC computation for numerical simulation in materials forming when using hundreds of thousands of cores, led by Dr. Hugues Digonnet of MINES-ParisTech, which received 2.9 million core hours on CURIE as well as 2.54 million core hours on JUQUEEN.
- EDF R&D participates in the project of Dr. Alistair Revell (University of Manchester) the objective of which is to improve the performance of Flettner rotors and reduce the need of fossil fuels, and to which 20.8 million core hours on Hermit were allocated.

A significant number of projects was ranked above scientific threshold, but could not be awarded due to limited resources. This demonstrates the interest of the scientific community in using PRACE resources.

About PRACE

The Partnership for Advanced Computing in Europe (PRACE) is an international non-profit association with its seat in Brussels. The PRACE Research Infrastructure provides a persistent world-class high performance computing service for scientists and researchers from academia and industry in Europe. The computer systems and their operations accessible through PRACE are provided by 4 PRACE members (BSC representing Spain, CINECA representing Italy, GCS representing Germany and GENCI representing France). The Implementation Phase of PRACE receives funding from the EU's Seventh Framework Programme (FP7/2007-2013) under grant agreements RI-261557, RI-283493 and RI-312763. For more information, see www.prace-ri.eu.

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