

News



Agreement for the completion of the BSC headquarters

The BSC and the Repsol Foundation signed, on 29 November, the agreement that will allow work on the centre's new headquarters to be finished.

[More information on page 3](#)



Thousands of users already enjoy the Caliope app

Just weeks after its launch the new Caliope application has registered more than 8,500 downloads. It is available for the Apple and Android platforms.

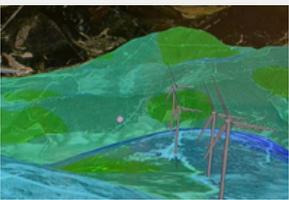
[More information on page 3](#)



The HBP starts up with BSC's participation

The project was launched officially in October 2013. The Human Brain Project will use programming models developed at the BSC and with the MareNostrum supercomputer.

[More information on page 4](#)



Iberdrola and the BSC develop the SEDAR project

The SEDAR project aims to create an innovative IT model which will improve current studies for estimating onshore and offshore wind production.

[More information on page 4](#)



Updating MareNostrum

This video shows the process of updating the supercomputer MareNostrum 2 to MareNostrum 3 in 2013. Saving files, updating applications and infrastructure...

[More information on page 4](#)

Directors' View



Our objectives can be summarized in one sentence: "To be excellent and relevant in our R&D areas, in HPC support and in wealth creation, working together and managing resources in the best possible way."

[More information on page 2](#)

Events and Training



Jan
24

SO Seminar: Multi-objective Optimisation and Big Data

24 January, Barcelona

Jan
27

Industry Focused PATC: Petaflop System Administration; Marenostrum III

27 January, Barcelona

Feb
5

PATC Course: HPC-based simulations, Engineering and Environment

5 February, Barcelona

[More events on page 2](#)

Inside BSC



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- Did you know...where you can find the PDP presentation?
- BSC Professional Development Plan
- Severo Ochoa Mobility grants
- UPC- Alumni Virtual Fair
- Social Plan 2013 activities approved
- BSC Calendar 2014

Spotlight on...

SC13 award for BSC researchers

The Heterogeneous Architectures team of the Computer Sciences Department of the BSC has been awarded the SC13 best student paper, announced in the awards ceremony from the SC13, held in Denver from 17-22nd November. The awarded paper is a research result of the European funded Mont-Blanc project, coordinated by BSC.

Nikola Rajovic: "When they started announcing the winning paper, after they read the first word of the winning paper's title I realized we got it"

[More information on page 5](#)





Directors' View

Dear Colleagues,

We would like to take this opportunity to share with you BSC's long term objectives, our common objectives, and to think about them together for a few minutes.

Our objectives can be summarized in one sentence: "To be excellent and relevant in our R&D areas, in HPC support and in wealth creation, working together and managing resources in the best possible way."

Note that we mention both excellence and relevance.

Excellence is that which is unusually good and surpasses ordinary standards; it implies rigorous theoretical thinking and empirical sound foundations. In Aristotle's words, "Excellence is not an act, but a habit".

In R&D, for example, excellence can be measured by publications in high impact factor academic journals or by communications at prestigious international conferences. Excellence is extraordinarily important, but alone it is not enough; relevance must also be added to the equation.

Relevance, as opposed to excellence, must be linked to external goals. To do something relevant to a goal means to increase the likelihood of accomplishing it.

Which are the key goals we are facing? Our objectives can be linked to the societal challenges currently faced by Europe and the world in health, environment, energy and information management.

So, our objectives are not just to do the best R&D, to provide an excellent HPC support to European R&D&i groups or to create wealth in a very effective way. To be globally competitive our objectives must contribute to help to provide solutions to the key problems of our time, such as: maintaining and improving people's health and quality of life; preserving and recovering the environment; improving energy generation and its effective use, and increasing the level of information and knowledge of both people and organisations.

The good news is that we can do it: our ideas and technologies can impact in Europe and internationally, we can serve as a competitive tool for local research centers, universities and companies, we can prepare highly qualified technicians for the workplace, we can collaborate with world-class technology firms, we can incubate new technology based spin-offs, and we can add value to other Catalan, Spanish, European and international initiatives.

We should always bear in mind the excellence and the relevance of our actions. We have a great opportunity and a great responsibility.

Mateo Valero, the BSC director and Francesc Subirada, the BSC associate director

Calendar of Events and Training

Jan 24 SO Seminar: Multi-objective Optimisation and Big Data
24 January, Barcelona

Jan 27 Industry Focused PATC: Petaflop System Administration; Marenostrum III
27 January, Barcelona

Feb 5 PATC Course: HPC-based simulations, Engineering and Environment
5 February, Barcelona

Feb 14 SO Seminar: HPC simulation using xSim – The Extreme-scale Simulator
14 February, Barcelona

Mar 13 PATC Course: Simulation Environments for Life Sciences
13 March, Barcelona

Apr 10 PATC Systems Workshop: Programming MareNostrum III
10 April, Barcelona

May 12 PATC Course: Performance Analysis and Tools
12 May, Barcelona

May 14 PATC Course: Heterogeneous Programming on GPUs with MPI + OmpSs
14 May, Barcelona

May 16 PATC Course: Programming ARM based prototypes
16 May, Barcelona

May 19 Industry Focused PATC Course: HPC-based simulations for the Industrial Realm
19 May, Barcelona

Jun 2 PATC Course: Introduction to CUDA Programming
2 June, Barcelona

Jun 10 ICCS 2014 BSC led Workshops
10 June, Barcelona

News

Agreement for the completion of the BSC headquarters



Several public figures attended to the agreement signature

The BSC and the [Repsol Foundation](#) signed, on 29 November, the agreement that will allow work on the centre's new headquarters to be finished.

Various public figures were present at the proceedings, including the Minister for Economy and Competitiveness, Luis de Guindos, the Councillor for Economy and Competitiveness of the Generalitat of Catalonia, Andreu Mas-Colell, the Secretary of State for Research, Development and Innovation, Carmen Vela, and the president of Repsol, Antonio Brufau, among others. Through this agreement, the foundation will provide 6 million Euros for the completion of the building, which will be named the "BSC-Repsol Building". The BSC began construction in May 2011 and work is expected to be completed in 2016.

Repsol and the BSC have collaborated since 2007 on high-content R+D projects in the field of hydrocarbon exploration geophysics, including the Kaleidoscope

project. This project provides greater speed and precision for capturing images of the Earth's crust beneath the ocean floor, with respect for the natural environment.

More information [here](#)

Thousands of users already enjoy the Caliope app



Caliope app

Just weeks after its launch the new Caliope application has registered more than 8,500 downloads, very positive data according to the director of Earth Sciences, José María Baldasano.

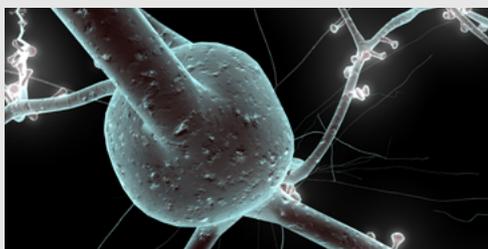
The BSC has developed this mobile application to enable the user to learn the air quality and a corresponding 12-hour forecast for different Spanish cities and municipalities. It shows the level of air quality in a particular location in Spain and the concentrations of the main contaminants – ozone, nitrogen dioxide, sulfur dioxide, and particles in the air – that are present. Caliope is based on the air quality forecast system of the same name developed by the BSC in collaboration with the Ministry of the Environment. The data provided by the Caliope system was already public but consulting it was complex for non-experts.

This application is available for the [Apple](#) and [Android](#) platforms and can also be found on its [website](#).

More information [here](#)

News

The HBP starts up with the participation of the BSC



The [Human Brain Project](#), a European macro project that hosted its inaugural event in Lausanne at the beginning of October, will use programming models developed at the BSC and with the MareNostrum supercomputer. OmpSs and COMPSs are the two programming models developed at the BSC that will be used to enable these large-scale simulations to run on the European supercomputers that are participating in the project and also enable co-ordination between them.

The simulations will be run at a neuronal level on the MareNostrum supercomputer.

The centre also carries out support and training for researchers who are not experienced in the use of supercomputers, to advise them on how to program their applications. Additionally, the Mont-Blanc project's proposal to build energy-efficient computers is one of the alternatives considered by the HBP for its data processing platform.

More information [here](#)

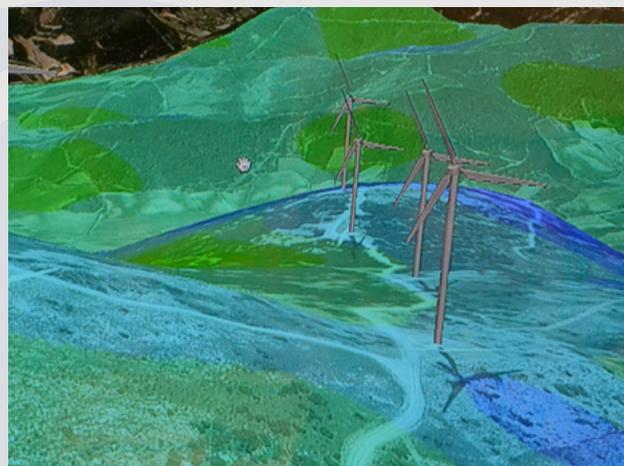
Iberdrola and the BSC develop the SEDAR project

The SEDAR project aims to create an innovative IT model which will improve current studies for estimating onshore and offshore wind production, and which may be applied throughout the whole operational life of these facilities.

This is a significant contribution to the technological development of wind power, as it will pave the way for the construction of new windfarms with greater guarantees of investment. Both the development of the project and its subsequent application will take place in the facilities of the BSC using software run by MareNostrum.

This new software has been developed with the collaboration of the National Centre for Renewable Energies (CENER).

Read news [here](#) | Video [here](#)



Updating MareNostrum



This video shows the process of updating the supercomputer MareNostrum 2 to MareNostrum 3 in 2013.

Saving files, updating applications and infrastructure, building a new cooling system, installing high-speed networks... All the work that was done by the BSC' Operations team for the proper functioning of the supercomputer in a record time.

See [video](#)

Spotlight on...

BSC researchers awarded SC13 Best Student Paper

The Heterogeneous Architectures team of the BSC Computer Sciences Department has been awarded the SC13 best student paper, announced in the awards ceremony from the International Conference for High Performance Computing, Networking, Storage and Analysis (SC13), held in Denver from 17-22nd November.

Nikola Rajovic, Paul M. Carpenter, Isaac Gelado, Nikola Puzovic, Alex Ramirez and Mateo Valero are the authors of the paper. Nikola Rajovic, PhD student from the Heterogeneous Architectures team of the BSC Computer Sciences Department, presented the scientific paper titled *Supercomputing with Commodity CPUs: Are Mobile SoCs Ready for HPC?*

The paper shows that mobile processors, used in smartphones and tablets, have promising qualities to replace current technologies, and become mainstream in High Performance Computing in the near future. Provided they implement a reduced set of extra features not needed by mobile devices, they could lead to faster, cheaper, and more energy-efficient supercomputers.

The [awarded paper](#) is a research result of the European funded [Mont-Blanc project](#), coordinated by BSC, who's aim is to design a new type of computer architecture capable of setting future global HPC standards, built from today's energy efficient solutions used in embedded and mobile devices.

Congratulations team!



Talking to Nikola Rajovic

- **Did you expect to win?** No, I did not and it got me by surprise. But, to be completely honest, I was hoping to. There were eight nominees so my chances were relatively high.
- **How did you feel?** When they started announcing the winning paper, after they read the first word of the winning paper's title I realized we got it. It felt amazing, a boost of adrenaline and happiness!
- **Where did you get the idea for the paper?** The paper represents the outcome of our two years efforts in Mont-Blanc project where we investigate the use of mobile technologies in High-Performance Computing.
- **What does this prize mean to you?** This prize is in recognition of the Mont-Blanc project efforts, entire team's efforts. To me it means a lot since it may be the best recommendation for my future endeavours.



Alex Ramírez: leader of the BSC Heterogeneous Architectures team

"Doing great research is only part of the job. Publishing it in the best conferences and reaching the right audience is also critical. This award recognizes that we can do both things: perform leading research, and reach the most demanding HPC community.

Sometimes it takes a lot of hard work before you can publish your research as a scientific paper. This award recognizes that, sometimes, it is worth the effort"

Inside BSC

BSC Newcomers

We are glad to announce you that BSC has a Welcome Manual for the newcomers. You can find the online version on the intranet: <https://intranet.bsc.es/en/node/2212>



IRENE BELDA
Accounting Assistant
Management Dpt.



**SANTHOSH KUMAR
RETHINAGIRI**
Postdoctoral Researcher
Computer Sciences Dpt.



VINCENZO OBISO
Predocctoral Researcher
Earth Science Dpt.



MIGUEL BERNABEU
User support consultant
Operations Dpt.



DAVID MORALES
Engineer Support
Computer Sciences Dpt.



CESAR ALLANDE
Research Support Engineer
Computer Sciences Dpt.



PEDRO RIERA
Research Support Engineer
Life Science Dpt.



**GEROGIOS
MARKOMANOLIS**
Senior Engineer
Earth Science Dpt.



MARÇAL SOLA
Research Support Engineer
Computer Sciences Dpt.



FILIPPO MANTOVANI
Postdoctoral Researcher
Computer Sciences Dpt.



BEATRIZ LOPEZ
CASE Director Assistant
CASE Dpt.



NICOLAS POGGI
Postdoctoral Researcher
Computer Sciences Dpt.



MAURO CANUTO
Research Support Engineer
Computer Sciences Dpt.



DAVID ORTIZ
Research Support Engineer
Computer Sciences Dpt.



MIGUEL ARMENTA
Maintenance Technician
Operations Dpt.



JORGE BELLON
Research Support Engineer
Computer Sciences Dpt.



NURIA MASDEU
Communication Officer
Management Dpt.



MONICA MARRERO
Research Support Engineer
CASE Dpt.



ANA MILOVANOVIC
Research Support Engineer
Life Science Dpt.

FELLOWSHIPS



GURAY OZEN
Research Fellowship
Computer Sciences Dpt.



**ARTURO SAN
EMETERIO**
Research Fellowship
Computer Sciences Dpt.



ROBERTO VARGAS
Research Fellowship
Computer Sciences Dpt.



VLADIMIR DIMIC
Research Fellowship
Computer Sciences Dpt.



LUC JAUMES
Research Fellowship
Computer Sciences Dpt.



XUBIN TAN
Research Fellowship
Computer Sciences Dpt.



DIMITRIOS CHASAPIS
Research Fellowship
Computer Sciences Dpt.



RICARD ILLA
Research Fellowship
Life Sciences Dpt.



DIANA BUITRAGO
Research Fellowship
Life Sciences Dpt.



OSCAR ESQUIVEL
Postdoctoral Research
CONACYT
Life Sciences Dpt.



JUAN CARLOS CAJA
Postdoctoral Research
CONACYT
CASE Dpt.



DAMIAN ROCA
Research Fellowship
"La Caixa"
Computer Sciences Dpt.



MLADEN SLIJPCEVIC
Research Fellowship
"La Caixa"
Computer Sciences Dpt.



EDGAR OLIVARES
Research Fellowship
"La Caixa"
CASE Dpt.



LLUIS VENDRELL
Research Fellowship
"La Caixa"
Earth Science Dpt.



MERCE PLANAS
Research Fellowship
"La Caixa"
Life Science Dpt.



**MERVI
MANTSINEN**
*ICREA Research Professor at
BSC/CASE*

Mervi joined the BSC in October 2013. She works on the numerical modelling of experiments in magnetically confined fusion devices in preparation for ITER operation. ITER is an international nuclear fusion R&D project, which is building the world's largest experimental tokamak nuclear fusion reactor in France. Her objective is to enhance modelling capabilities in the field of fusion by code validation and optimization, with the ultimate goal of helping improve the performance of ITER and future fusion reactors.

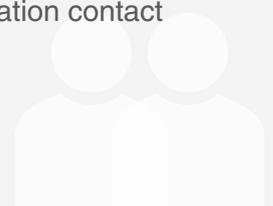
WELCOME TO BSC!

Job Vacancies

If you know someone who wants to join the BSC team, he/she can submit a CV to one of our current vacancies or fellowships' calls:

www.bsc.es/vacancies-fellowships

For further information contact
rrhh@bsc.es.



Inside BSC

BSC Professional Development Plan

As of this October you can access the software application for the new Professional Development Plan through the *Personnel Corner/Online Professional Development Plan (PDP)* on the intranet. Interviews began in December regarding the assessment of the 2013 objectives and the communication of the 2014 objectives.



UPC- Alumni Virtual Fair

The BSC participated in the second UPC Alumni Virtual Careers Fair between the 18th and 24th of November, with a virtual stand including all the

work and training opportunities of the BSC, as well as three testimonies from members explaining their experience and professional career with the BSC.

SO Mobility grants

On 2 May this year the resolution of the BSC Severo Ochoa Programme Mobility Grants was published. 2 grants were awarded to support the visits of the personnel of other institutions and 5 grants to fund the visits of BCS personnel to other collaborating institutions. The total budget assigned to this initiative is 15,000 Euros.

Social Plan 2013 activities approved

We hope you enjoy the social plan 2013 activities. Among others, you will find a fundraising event, [Oxfam Trailwalker](#). In the next weeks we will inform you about some activities to support the BSC team which will take part in this activity. We encourage you to collaborate. All the information is available on intranet: <https://intranet.bsc.es/en/node/1701>

Did you know...

where you can find the PDP presentation?

You can find the presentation of the BSC's Development Plan on the intranet, in *Personnel Corner/ Labour Issues*:

<https://intranet.bsc.es/en/node/2103>

BSC Calendar 2014

We inform you that the BSC calendar 2014 is already available and you can collect it at the third floor of Nexus II building. This year the calendar has corporate images. For 2015 calendar we will announce a photo competition and we would like to count on you for this collaboration. We will keep you updated about the information!

Your participation is welcome!

If you have any suggestions for a new section or topic, please contact us on newsletter@bsc.es.

