

News



The ETP4HPC has published its Strategic Research Agenda

ETP4HPC, the European High-Performance Computing (HPC) Technology Platform, has concluded work on its Strategic Research Agenda (SRA).

[More information on page 3](#)



BSC at the International Supercomputing Conference 2013

The PRACE project prototype Pedraforca's blade and the research on the use of ARM processors in supercomputing have been the BSC stand's main attractions at the ISC 2013.

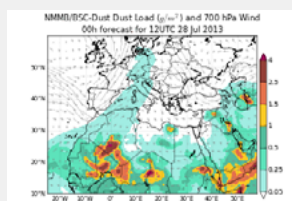
[More information on page 3](#)



ICCS 2013 brings 500 researchers to Barcelona

The 13th Annual International conference on Computational Science (ICCS) was held from the 5th to the 7th of June this year in Barcelona.

[More information on page 4](#)



BSC and AEMET to create the first OMM Dust Prediction Centre

The World Meteorological Organization has approved the creation of the world's first meteorological centre specializing in prediction of sand and dust in the atmosphere.

[More information on page 4](#)



Supercomputing to help recycling of plastic

BSC and the Delft University of Technology used supercomputers to design a sorting plant that can separate polyethylene and polypropylene.

[More information on page 4](#)

Directors' View



The BSC was born with a vocation to collaborate and compete internationally. This resolve, coupled with our skills and hard work, has allowed us to become a world-class research performer and service provider. Europe has always been important for us and is now even more essential as national funding becomes scarcer.

[More information on page 2](#)

Events and Training

Sep
12

7th RES Users' Conference & 2nd Annual HPC Advisory Council Spain Conference 2013

Barcelona, 12 September 2013

Sep
18

B-Debate: In silico human simulation

Barcelona, 18 September 2013

Sep
19

Open Symposium: Multi-scale simulation of living organisms: from genomes to entire human organs

Barcelona, 19 September 2013

[More events on page 2](#)

Spotlight on...

Across borders

Interview with Miquel Pericàs, former member of the Computer Sciences Department at the Barcelona Supercomputing Center

The BSC staff is one of the centre's greatest assets. Our team members continue to be an asset even as they move on to new professional opportunities. We like to keep in touch with researchers today even as they continue their careers in other centres. Today we offer you an interview with one of former researchers: Miquel Pericàs, now a postdoctoral fellow at the [Tokio Institute of Technology](#) (TokyoTech).



[More information on page 5](#)

Inside BSC



In this issue:

- Social Activities Plan 2013
- BSC Professional Development Plan
- Did you know...what to do in case of a work-related accident?
- BSC Newcomers

Directors' View



The BSC was born with a vocation to collaborate and compete internationally. This resolve, coupled with our skills and hard work, has allowed us to become a world-class research performer and service provider.

Europe has always been important for us and is now even more essential as national funding becomes scarcer. The centre's return from Europe has always been good. According to CDTI, between 2007 and 2010 BSC had the second highest return from FP7 of any Spanish research infrastructure, the third highest return of any Spanish public centre and the 15th highest in Spain as a whole. The recently published results of FP7 ICT call 10 were particularly excellent, with the centre winning seven projects, over 5M€ in funding and assuring job stability for many people for the next few years.

BSC is working to ensure that it remains at the forefront of HPC research in Europe through its strong participation in the [European Technology Platform for HPC \(ETP4HPC\)](http://www.etp4hpc.eu/publications/key-documents/), which has recently published its strategic research agenda for architecture and system software. All BSC's research priorities in the area are reflected in this document (see <http://www.etp4hpc.eu/publications/key-documents/> for further details)

The new European funding programme [Horizon 2020](#), starting January 2014, will be a new opportunity for the BSC in Europe. The importance of HPC within Horizon 2020 reflects the fact that Europe now recognises, along with the US and Asia, that supercomputing is crucial for science and industry to be competitive, and we will be decisive for Europe in order to achieve this competitiveness.

Compared to previous funding programmes, Horizon 2020 will be more focussed on innovation and on looking for solutions which imply interdisciplinary collaboration. BSC needs to be ready for this change. We will need to be aware of our place in the innovation chain, who our results are useful for and why. We will also need to make links and collaborate with other disciplines both within and outside the centre. I am completely sure we will achieve these objectives!

Francesc Subirada, BSC Associate Director

BSC is working to ensure that it remains at the forefront of HPC research in Europe through its strong participation in the European Technology Platform for HPC

Calendar of Events and Training

- Sep 12** 7th RES Users'Conference & 2nd Annual HPC Advisory Council Spain Conference 2013
Barcelona, 12 September 2013
- Sep 18** B-Debate: In silico human simulation
Barcelona, 18 September 2013
- Sep 19** Open Symposium: Multi-scale simulation of living organisms: from genomes to entire human organs
Barcelona, 19 September 2013
- Sep 22** SEG International Exposition and 83rd Annual Meeting
Houston, 22 September 2013
- Sep 26** Acceso a servicios de supercomputación en BIFI-UZ, BSC-CNS, RES & PRACE
Barcelona, 26 September 2013

- Oct 14** Prace Advanced Training Centres (PATCs): Parallel Programming Workshop
Barcelona, 14 October 2013
- Oct 19** 48 h Openhouse
Barcelona, 19 Octubre 2013
- Oct 28** 2nd EUDAT Conference
Rome, 28 October 2013
- Nov 22** SC2013: Supercomputing conference: The International Conference for High Performance Computing, Networking, Storage and Analysis
Barcelona, 22 November 2013

News

The ETP4HPC has published its Strategic Research Agenda



ETP4HPC, the European Technology Platform for High Performance Computing, has concluded work on its **Strategic Research Agenda (SRA)**, a key deliverable of the initiative outlining the research priorities for HPC technology research in Europe.

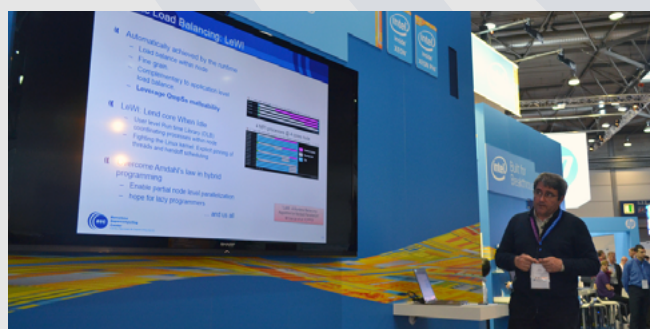
The SRA not only presents the view of the members of **ETP4HPC** but it is also a result of a consultation process involving HPC industrial end-users, **PRACE** (the European HPC research infrastructure) and academic HPC users, and Independent Software Providers.

BSC, a founding member of EP4HPC, has taken an active part in the preparation of this document. Together with other ETP4HPC members, BSC experts have coordinated the writing and publishing of the SRA, led one of the technical working groups and contributed to the technical content of the Agenda.

ETPs are an industry led forums that provide a framework for stakeholders to define research priorities and action plans on a number of technological areas where achieving EU growth, competitiveness and sustainability requires major research and technological advances in the medium to long term.

BSC News Website | The SRA document is available at: <http://www.etp4hpc.eu/publications/key-documents/>

BSC at the International Supercomputing Conference 2013



Jesús Labarta giving a talk at the Intel Stand for ICS'13

The **PRACE** project prototype **Pedraforca's** blade and the research on the use of ARM processors in supercomputing have been the BSC stand's main attractions at the 2013 **International Supercomputing Conference (ISC 2013)**, held this year June 22-26 in Leipzig. Alex Ramírez, leader of the BSC Heterogeneous Architectures team, explained the advances of this line of research in the **BoF "Exascale Research - The European Approach"**, which was followed with much interest.

The BSC's participation was visible during various moments throughout the conference. **Jesús Labarta**,

Department of Computer Science director and **Intel-BSC Exascale Lab** coordinator, gave a talk about the Xeon Phi processor, one of the most talked about new technologies during the ISC 2013. **Sergi Girona**, BSC Director of Operations and chair of the Board of Directors of the European PRACE infrastructure, explained the strategy for the future of this European infrastructure during the PRACE Day that took place the day before the ISC inauguration. BSC Life Sciences Department's director, **Modesto Orozco**, also participated in the PRACE Day meeting with the talk "The molecular bases of the transport cycle of APC anti porters".

During the ISC2013, the **Top500 list** was announced and the supercomputer MareNostrum remains under the 10 supercomputers in Europe.

BSC News Website | The photo album is available [here](#)

News

ICCS 2013 brings around 500 researchers to Barcelona



Entrance to the ICCS'13 Venue at the CCIB
(Centre Convencions Internacional Barcelona)

The [13th Annual International conference on Computational Science](#) (ICCS) was held from the 5th to the 7th of June this year in Barcelona. The ICCS brought together **around 500 participants**, over 120 of whom were young scientists, PhD and MSc students, experts from the field of supercomputing, and researchers from various disciplines. These individuals are pioneering the use of supercomputing for physics, chemistry, life sciences, engineering, and even the study of the arts and social systems.

The theme for ICCS 2013 was “**Computation at the Frontiers of Science**” to mark the ever-increasing importance of progress in computational science theory and practice at the frontiers of science.

[Vassil Alexandrov](#), leader of the Extreme Computing group in BSC, was the conference chair.

[BSC News Website](#) | Photo albums are available here: [1st day](#), [2nd day](#) and [3rd day](#)

BSC and AEMET to create the first OMM Dust Prediction Centre

The [World Meteorological Organization](#) has approved the creation of the world's [first meteorological centre](#) specializing in the prediction of sand and dust in the atmosphere, and has appointed a consortium formed by the [Spanish National Meteorology Agency](#) (AEMET, de Agencia Estatal de Meteorología) and the Barcelona Supercomputing Center (BSC) to manage it. The centre will conduct daily predictions of atmospheric mineral dust for North Africa, Middle East and Europe.

The two Spanish institutions play a complementary role in this new center: **AEMET** deploys and maintains an extensive network of observation, both in Spain and in North Africa, where it has installed equipment in collaboration with Morocco, Algeria and Tunisia meteorological services and conducts studies to characterize dust storms. Moreover, BSC's high computational capacity has allowed for the development of complex numerical models that simulate the dust cycle in the atmosphere and facilitate the preparation of daily predictions. The new centre will use the model [NMMB / BSC-Dust](#) developed by BSC.

[BSC News Website](#) | [AEMET News](#)

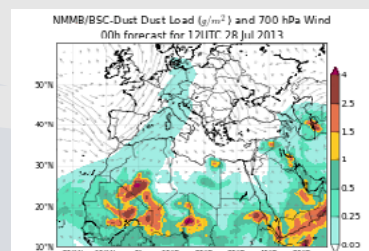


Image from the NMMB/BSC-Dust model,
operated by [BSC](#). North Africa-Middle
East-Europe image

Supercomputing to help recycling of plastic



BSC and the [Delft University of Technology](#) used supercomputers to design a sorting plant that can separate polyethylene and polypropylene, the two main types of plastic, according to their respective densities. Each year, every European throws away an average of 30 kilograms of plastic. Before it is recycled, plastic must be sorted, separated from other materials, and classified.

[Video in English](#) | [Video in Spanish](#) | [BSC News Website](#)

You can see all **BSC videos** on our [Youtube channel](#)!

Spotlight on...

Across borders

Interview with Miquel Pericàs (33 years old), former member of the Computer Sciences Department at BSC from 2005 to 2012.

The BSC staff is one of the centre's greatest assets. Our team members continue to be an asset even as they move on to new professional opportunities. We like to keep in touch with researchers today even as they continue their careers in other centres. Today we offer you an interview with one of former researchers: Miquel Pericàs, now a postdoctoral fellow at the [Tokyo Institute of Technology](#) (TokyoTech) with a postdoctoral grant from the [Japan Society for the Promotion of Science \(JSPS\)](#).



Miquel Pericàs, former BSC researcher, at TokyoTech

1. Why did you decide to head for the Tokyo Institute of Technology?

In early 2011 I began to consider the option of switching settings, seeking new professional and personal experiences. In the past I had studied some Japanese and I was curious about their culture. Japan has a long tradition in HPC, having developed large machines such as the [Earth Simulator](#) and the [K Computer](#). Academically, TokyoTech is a highly regarded institution, owing largely to professors [Matsuoka](#) and [Aoki](#). TokyoTech is also the home of the [Tsubame 2.0 supercomputer](#).

2. What is your job at TokyoTech?

I work in a team researching task-parallel runtimes and performance analysis techniques. We are studying the scalability and data locality of massively task-parallel runtimes on multicores and manycore accelerators. These techniques are being applied to the simulation of particle interactions using the FMM algorithm.

3. Is there any relationship between TokyoTech and BSC?

BSC and TokyoTech collaborate in the "[G8 ECS](#)" project (Enabling Climate Simulations at Extreme Scale). Our team is also experimenting with the [OmpSs programming model](#) and the extrae/paraver performance analysis tools, both of which were developed at BSC.

4. What are you gaining from these months spent in Japan?

[Matsuoka's laboratory](#) consists of a very good and competitive group of researchers, running many projects and collaborations with industry. This is a great source of motivation and is allowing me to learn a great deal about supercomputing technology, tools, and applications. It is also allowing me to observe different ways of organizing a research laboratory.

5. From a distance, how would you value your experience at BSC?

BSC performs a great amount of multidisciplinary research, and it is a pool that attracts international talent. In Barcelona I also learned a research methodology which I am now trying to apply in this new environment.

6. What reputation does BSC have in TokyoTech?

Almost everyone I have met here, be it in academia or industry, knows about BSC and the research carried out there. Mateo Valero and Jesús Labarta are highly thought of -in fact, their help was instrumental for me to come to Japan.

7. Have you thought of returning or collaborating in some way with the BSC in the future?

I certainly would like to continue collaborating with BSC, since it is a centre that performs excellent research and I have many good friends there.

Short questionnaire

- **What surprised you most?** The extreme kindness and organization of the people
- **What do you like most?** Everything is very convenient and clean, and the food is excellent
- **What do you miss most from the BSC?** I miss having a larger, more international team of scientists to interact with. Language is still a big barrier in Japan.
- **What do you miss most from Barcelona?** Family, friends, food and Barça
- **What would you bring from there?** The reliability of public services, and, to an extent, the prevalence of groupism over individualism
- **What are your working hours?** I usually start around 8.30am and stay until 7.30pm

Inside BSC

BSC Newcomers

We extend a welcome to the Center's newest members:



ANIBAL MORENO
System Administration
Operations Dpt.



KALLIA CHRONAKI
Research Support
Engineer
Computer Sciences Dpt.



ALBERTO GAMBARUTO
Postdoctoral
Researcher
CASE Dpt.



MANUEL RUEDA
Postdoctoral
Researcher
Life Sciences Dpt.



ENZA DI TOMASO
Postdoctoral
Researcher
Earth Science Dpt.



CRISTINA JIMENEZ
Communications officer
Management Dpt.



NURIA SAAVEDRA
Operation Director
assistant
Operations Dpt.

FELLOWSHIPS



IVAN GRASSO
Researcher Fellowship
Computer Sciences Dpt.



RAJIV NISHTALA
Researcher Fellowship
Computer Sciences Dpt.



VINCENT BOYER
Research Fellowship
CASE Dpt.



MARC CASAS
Senior Researcher, Computer
Sciences Dpt.

Marc Casas recently re-joined the BSC after working at the Lawrence Livermore National Laboratory in California. He will work in the context of the ERC-funded project, Riding on Moore's Law (RoMoL), in which he will design new parallel architectures that will have a software runtime management layer running on the top of the hardware. ERC projects allow the BSC to attract international recognised scientists.



Social Activities Plan 2013

Once again BSC has launched the Social Activities Plan in order to fund initiatives to promote cohesion and contact between staff, as well as adding to the centre's social value. In the present edition, 'solidarity

activities' will be particularly valued; initiatives to raise funds for a specific project or NGO. You can find all information [here](#)

BSC Professional Development Plan

We inform you of the latest steps in the drafting of the BSC professional development plan:

ANNUAL ASSESSMENTS: We have completed the assessment of competencies and objectives for the year 2012 and have established the centre's goals for 2013. These goals, competencies and objectives are currently under review by the departments.

TRAINING: We completed an assessment of the training needs in 2012 which led to the development of a training plan. We have now completed the first training activities for 2013/2014.

DEVELOPMENT PLAN: We will soon launch a support application to facilitate the annual staff evaluations and the monitoring of the development. In short, all BSC staff will soon be able to access this new application which will track their values and goals.

Did you know...

what to do in case of a work-related accident? Human Resources (rrhh@bsc.es) must be informed before receiving assistance at Mutual Universal. This in order to register the incident and bring you the "Volante de prestación asistencia médica", or send it directly to Mutual Universal. With this document, you will receive care at the Mutual centres.

Your participation is welcome!

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

