SEVENTH FRAMEWORK PROGRAMME

Research Infrastructures

INFRA-2012-2.3.1 – Third Implementation Phase of the European High Performance Computing (HPC) service PRACE

PRACE-3IP

PRACE Third Implementation Phase Project

Grant Agreement Number: RI-312763

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Second Annual Dissemination and Outreach Report

Final

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[1] PRACE-3IP First Annual Dissemination and Outreach Report (http://www.prace-ri.eu/IMG/pdf/d3.3.pdf)

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[3] PRACE-3IP Outreach Plan (http://www.prace-ri.eu/IMG/pdf/d3.2.pdf)

[4] PRACE Website (http://www.prace-ri.eu)

[5] PRACE Dare to Think The Impossible Website (http://www.daretothinktheimpossible.com)

[6] PRACE LinkedIn Closed Discussion Group (http://www.linkedin.com/groups?gid=3671809&trk=hb_side_g)

[7] PRACE LinkedIn Company Page (http://www.linkedin.com/company/prace)

[8] PRACE YouTube Channel (http://www.youtube.com/user/PRACERI)

[9] PRACE Summer of HPC Website (www.summerofhpc.prace-ri.eu)

[10] PRACE Summer of HPC Facebook Page (www.facebook.com/summerofhpc)

[11] PRACE Summer of HPC Twitter (http://www.twitter.com/summerofhpc)

[12] PRACE Summer of HPC LinkedIn Page (https://www.linkedin.com/groups/Summer-HPC-4725549)

[13] PRACE Summer of HPC YouTube Page (https://www.youtube.com/user/SummerofHPC)

[14] PRACE Dare to Think The Impossible Facebook Page (https://www.facebook.com/daretothinktheimpossible)

[15] PRACE SHAPE Pilot (http://www.prace-project.eu/shape)

[16] PRACEdays14 Conference Programme (http://www.prace-project.eu/IMG/pdf/2014-05-20_-_22_pracedays14_booklet.pdf)

[17] PRACEdays14 Schedule (http://www.prace-project.eu/IMG/pdf/pracedays14_schedule_-_update_12_may_2014.pdf)

[18] PRACEdays14 Presentations (http://www.prace-ri.eu/PRACEdays14-presentations)

[19] PRACEdays14 Posters (http://www.prace-project.eu/PRACEdays14-Posters)

[20] PRACE SoHPC 2014 PR (http://www.prace-ri.eu/SoHPC14)

[21] Wordpress (https://wordpress.com)

[22] SPIP (http://www.spip.net/en_rubrique25.html)

List of Acronyms and Abbreviations

Aisbl	Association Internationales Sans But Lucratif (legal form of the PRACE RI)
BoD	Board of Directors
BoF	Birds of a Feather
BG/Q	Blue Gene Q IBM
BSC	Barcelona Supercomputing Center (Spain)
BSCW	PRACE internal document management system
BTYSE	British Telecom Young Scientist Exhibition, Irish heats of EUCYS
CINECA	Consorzio Interuniversitario, the largest Italian computing centre (Italy)
CINES	Centre Informatique National de l'Enseignement Supérieur (represented in PRACE by GENCI, France)
CMS	Content Management System
CRM	Customer Relations Management
CSC	Finnish IT Centre for Science (Finland)
DECI	Distributed European Computing Initiative
DEISA	Distributed European Infrastructure for Supercomputing Applications. EU project by leading national HPC centres.
EC	European Community
EPCC	Edinburg Parallel Computing Centre (represented in PRACE by EPSRC, United Kingdom)
EPSRC	The Engineering and Physical Sciences Research Council (United Kingdom)
EU	European Union
EUCYS	EU Contest for Young Scientists
FZJ	Forschungszentrum Jülich (Germany)
GENCI	Grand Equipement National de Calcul Intensif (France)
GRNET	Greek Research & Technology Network
HPC	High Performance Computing; Computing at a high performance level at any given time; often used synonym with Supercomputing
HPCS	International Conference on High Performance Computing & Simulation
IAC	Industrial Advisory Committee
IBM	Formerly known as International Business Machines
ICHEC	Irish Centre for High-End Computing
ICT	EC organised ICT event
IPB	Institute of Physics, Belgrade
ISC	International Supercomputing Conference; European equivalent to the US based SC0x conference. Held annually in Germany.
JSC	Jülich Supercomputing Centre (FZJ, Germany)
MB	PRACE Management Board
MOSI	Manchester Museum of Science, UK
MSF	Manchester Science Festival, UK
OPC	Organising and Programme Committee (PRACEdays14)
PATC	PRACE Advanced Training Centre
PRACE	Partnership for Advanced Computing in Europe; Project Acronym
RI	Research Infrastructure
RISC	Research Institute for Symbolic Computation
RPis	Raspberry Pis - a single-board computer used for teaching

RWTH	Rheinisch-Westfaelische Technische Hochschule Aachen, Germany
SC	Supercomputing Conference – annual event held in the USA
SCW	Scientific Computing World
SHAPE	SME HPC Adoption Programme in Europe
SoHPC	PRACE Summer of HPC Outreach Programme
SPIP	Système de Publication pour l'Internet Partagé or Participatif
SSC	Scientific Steering Committee
STFC	Science and Technology Facilities Council (represented in PRACE by EPSRC, United Kingdom)
Tier-0	Denotes the apex of a conceptual pyramid of HPC systems. In this context the Supercomputing Research Infrastructure would host the Tier-0 systems; national or topical HPC centres would constitute Tier-1
UCHP	University of Copenhagen, Denmark
UF	User Forum
UHEM	Ulusal Yuksek Basarimli Hesaplama Merkezi
ULFME	University of Ljubljana, Faculty of Mechanical Engineering
UPC	Universitat Politècnica de Catalunya, Barcelona, Spain
VSB	Technical University of Ostrava (Czech Republic)
WP	Work Package

Executive Summary

This deliverable entitled the Second Annual Dissemination and Outreach Report outlines the work carried out by the PRACE-3IP project from 1 July 2013 to 30 June 2014. This report follows on from the work reported in D3.3 (The First Annual Dissemination and Outreach Report), delivered in June 2013.

Work Package three is composed of two tasks: Dissemination and Outreach. Each of which produced a plan of activities D3.1 Dissemination Plan [2] and D3.2 Outreach Plan [3].

The highlights of dissemination task include:

- The production of the fourth PRACE magazine under the theme *"Forward-Looking Science"*
- PRACE booths at six events including the annual Supercomputing conference (SC) and International Supercomputing conference (ISC)
- The first annual PRACEdays conference, PRACEdays14 held in Barcelona
- 27 published articles as a result of the Liaising with National Journalists subtask

The highlights of outreach task include:

- The completion of 21 projects by 24 students at ten HPC sites on the PRACE Summer of HPC (SoHPC) 2013 and the selection of five sites and ten students for the PRACE Summer of HPC 2014
- Two PRACE Campus schools and two HPC classes & attendance at the EU Contest for Young Scientists, to reach out to school going students and the general public.

1 Introduction

Work Package (WP) 3 - Dissemination and Outreach - within PRACE-3IP is tasked with the communication of the results of the PRACE-3IP project and promoting and publicising the activities and outputs of PRACE. This deliverable describes the work carried out by the work package during the period 1 July 2013 to 30 June 2014.

This deliverable is divided into several chapters. The second chapter focuses on the work of the dissemination team, the third on the activities of the outreach team and the final chapter summaries the work and draws conclusions.

2 Dissemination

Activities within the dissemination task of WP3 are divided into the six subtasks below. Each is reported on in turn

- PRACE aisbl Dissemination Transition
- Web
- Press, including social media and advertising
- Liaising with Journalists
- Events
- PRACE Customer Relations Management

2.1 PRACE aisbl Dissemination Transition

In order to plan for and support the logical transition of the established dissemination activities to the PRACE aisbl, two documents have been produced:

- A list of tasks for transition – a descriptive report outlining each of the tasks in the work package
- Dissemination Effort/Cost - a spreadsheet outlining the cost and effort associated with each task

These documents were presented to the PRACE Board of Directors in October 2013 in order to inform the creation, amendment and approval of the PRACE aisbl Communication Strategy, which is currently under revision and review.

Further steps to support transition:

- Alignment of dissemination goals with the PRACE aisbl Communications Strategy
- Description and reporting of the transfer process of each activity

are pending the finalisation and approval of the PRACE aisbl Communication Strategy.

In the interim, incremental measures, some of which were proposed in the Communication Strategy are being addressed on a case-by-case basis (subject to approval) in order to align PRACE aisbl and PRACE-3IP project communications.

In particular, a full manual for the Summer of HPC (SoHPC) has been produced, outlining in detail the tasks and effort required to run the programme. In addition, the aisbl have been given management roles in each of the PRACE social media communities. Finally, the PRACE aisbl Communications Officer, Marjolein Oorsprong, has transitioned to Press Team task leader and continues to work closely with the WP3 team to ensure cohesive PRACE communications.

2.2 Web

The PRACE RI official website [4] continued to be the focal point of the project web presence. Project activities and news have been continuously published here, highlighting the most important ones on the homepage (open calls, PRACE events, publications, project outcomes etc.). The website structure and its functionalities were previously established and described in detail in PRACE-3IP project deliverable D3.3 - First Annual Dissemination and Outreach Report [1]. In the second year of the project the effort was focused mainly on preparing and publishing new content and on coordination of website migration to the Wordpress CMS [21].

Figure 1 - PRACE RI Official Homepage

Since May 2013, PRACE web team has been using Google Analytics for monitoring the website usage. Figure 2 shows the number of unique visitors per month in the period from 1 June 2013 until 1 June 2014.

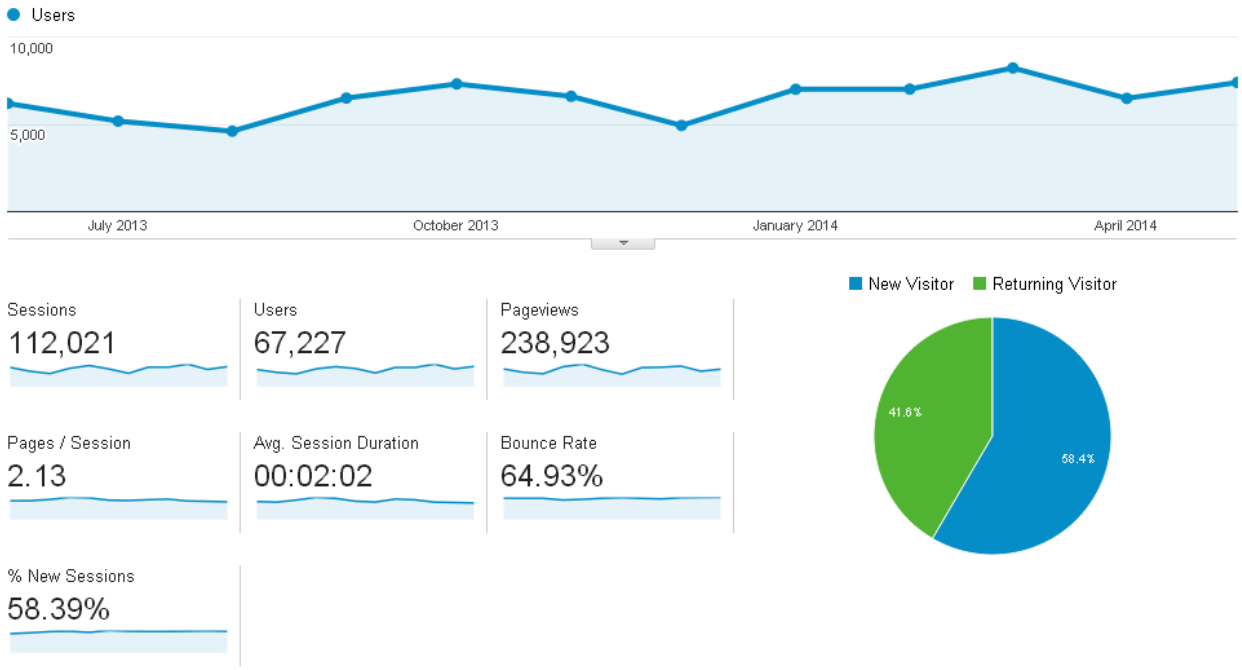


Figure 2 - Number of the PRACE RI website visitors for the period 1 June 2013 - 1 June 2014

Figure 3 illustrates geographical distribution of the visitors of the PRACE RI website in the period from 01 June 2013 until 01 June 2014.

	Country / Territory	Sessions
1.	France	11,971(10.69%)
2.	Germany	10,387(9.27%)
3.	United States	9,751(8.70%)
4.	Italy	8,487(7.58%)
5.	United Kingdom	8,068(7.20%)
6.	Spain	7,294(6.51%)
7.	Belgium	5,440(4.86%)
8.	India	3,742(3.34%)
9.	Czech Republic	2,794(2.49%)
10.	Netherlands	2,431(2.17%)

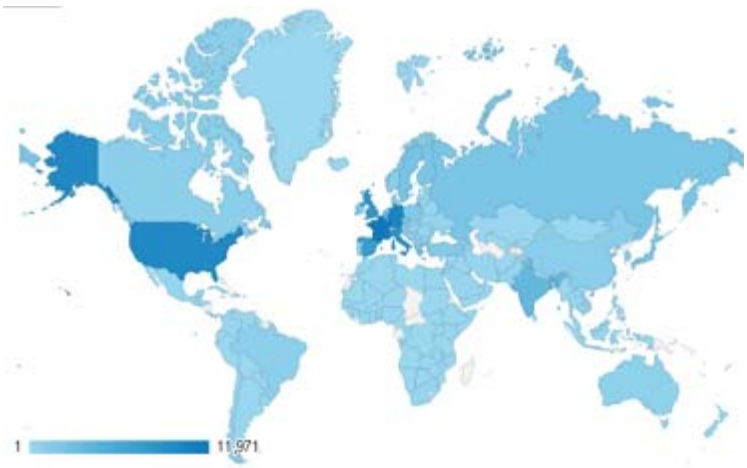


Figure 3 - Geographical distributions of PRACE RI website visitors for the period 1 June 2013 - 1 June 2014

Table 1 - Most Visited Pages, lists the most visited pages within the PRACE RI website in the period from 1 June 2013 until 1 June 2014.

	Page Title	Pageviews	% Pageviews
1.	PRACE Research Infrastructure (home page)	42,839	17.93%
2.	Best Practice Guide - Intel Xeon Phi	14,447	6.05%
3.	PRACE Call Announcements	8,202	3.43%
4.	PRACE Scientific and Industrial Conference 2014	8,106	3.39%
5.	PRACE in a few words	5,847	2.45%
6.	PRACE Project Access	5,046	2.11%
7.	PRACE Resources	4,417	1.85%
8.	Application Guide	3,691	1.54%
9.	PRACE Preparatory Access	3,378	1.41%
10.	Organisation	3,154	1.32%

Table 1 - Most Visited Pages

2.2.1 *CMS Migration*

The PRACE website [4] is used to publish activities of PRACE IP projects and PRACE aisbl. The web site is hosted at CINES under contract with PRACE aisbl. The Content Management System (CMS) used to power the website is SPIP version 2.1 [22]. This was simply to setup and it was initially able to satisfy modest needs of the PRACE dissemination team. As the PRACE website grew in terms of content, it was necessary to add new features, such as enabling visitors of the website to subscribe to receive PRACE newsletters, press releases and call alerts by email, enabling online registration to various events, easier management of document and media files, enhancing content visualisation, configuration of multiple URLs for single web page, etc. These features were added by installing plugins that are offered by SPIP community, or by implementing some tweaks and workarounds. However, it was not possible to meet some demands for better visual appeal and a number of flaws of SPIP CMS were revealed which made it unsuitable as a long term solution for the PRACE website.

It was decided to migrate the PRACE website to a different CMS. The main criteria for the selection of the new CMS that will power the PRACE official website were an easy to use backend, high security, open source code and an active and large developer and user community. The most popular Open Source CMS choices that satisfy these criteria are Wordpress, Joomla and Drupal. The three systems have been evaluated and WordPress is rated as the top choice that will overcome all flaws of SPIP CMS. It has an intuitive backend making it easy to use, allowing to create dynamic content, enabling effortless site maintenance and providing a professional and modern look and feel, without losing any of the features that were previously available. This allows the web team to focus on content and not waste time on a difficult technology as offered by SPIP.

The migration was outsourced to an external company and it was overseen by the PRACE webteam to make sure that the website retains the same look and feel and keep all the functionalities. The migration is now complete. Further avenues of further development include identifying and implementing more visually appealing layouts and futher utilising the versatility of the WordPress CRM.

2.3 Press

During the reporting period the press team has published 30 press releases, one magazine and updated and distributed promotional material, including the design of a new feature PRACE image.

2.3.1 *Press Releases*

PRACE published 30 press releases during the reporting period, of which seventeen (**highlighted in bold**) are directly related to PRACE-3IP activities:

1. **2013-06-14- Welcome to the PRACE booth at ISC'13 Exhibition**
   http://www.prace-ri.eu/PRACE-at-ISC13
2. **2013-06-14 - PRACE Educates Tomorrow's Researchers**
   http://www.prace-ri.eu/PRACE-DtTtI
3. 2013-07-22 - PRACE demonstrates again its strong support for European high-impact science and innovation!
   http://www.prace-ri.eu/Call7-Results-PR
4. **2013-07-25 - PRACE Launches Pilot of High Performance Computing Adoption Programme for European SMEs**
   http://www.prace-ri.eu/SHAPE-Pilot-Call
5. **2013-09-09 - More than 70 students from 4 continents gain HPC skills at fourth annual Summer School**
   http://www.prace-ri.eu/2013-International-Summer-School
6. 2013-09-10 - Science and Industry join hands: 1st Meeting of the PRACE Industrial Advisory Committee
   http://www.prace-ri.eu/IAC-1st-Meeting
7. 2013-09-23- Supercomputers for all: The next frontier for Europe's high performance computing
   http://www.prace-ri.eu/Supercomputers-for-all
8. 2013-09-27 - PRACE partners nominated for HPCWire's Reader's Choice Awards 2013
   http://www.prace-ri.eu/HPCWire-Reader-Choice-Awards-2013
9. **2013-10-09 - PRACE Showcase the Principles of HPC at the European Union Contest for Young Scientists (EUCYS)**
   http://www.prace-ri.eu/press-EUCYS-2013
10. **2013-10-28 - PRACE Winter School 2014**
    http://www.prace-ri.eu/Press-PRACE-Winter-School-2014
11. 2013-10-30 - PRACE event "HPC@Horizon2020" rallies support for "Supercomputers for all
    http://www.prace-ri.eu/HPC-Horizon2020
12. **2013-11-08 - PRACE Summer of HPC Awards Excellence**
    http://www.prace-ri.eu/PRACE-Summer-of-HPC-Awards-Excellence
13. **2013-11-19 - PRACE SHAPE Pilot selects 10 European SMEs**
    http://www.prace-ri.eu/SHAPE-Pilot-Selection
14. **2013-11-23 - PRACE Partners launch Pre-Commercial Procurement: Whole-System Design for Energy Efficient HPC**
    http://www.prace-ri.eu/PCP-Whole-System
15. 2013-11-26 - PRACE partners awarded HPCWire's Reader's Choice Awards 2013
    http://www.prace-ri.eu/HPCwire-Award-Winners-2013

16. **2013-12-03 - PRACE Summer of HPC Awards Best Students**
    http://www.prace-ri.eu/SoHPC-Winners
17. **2014-01-23- PRACE Spring School 2014 Software Engineering for Supercomputers in Research and Industry 15 – 17 April 2014**
    http://www.prace-ri.eu/Spring-School-2014
18. **2014-01-28 - International Summer School 2014 on HPC Challenges in Computational Sciences**
    http://www.prace-ri.eu/International-Summer-School-2014-PR
19. 2014-02-04 - Preparatory Access 15th cut-off: PRACE Preparatory Access passes 3-year cap in bloom
    2014-02-04 - Preparatory Access 15th cut-off: PRACE Preparatory Access passes 3-year cap in bloom
20. 2014-02-24 - "PRACE 8th Call for Proposals closes with larger allocations on all systems"
    2014-02-24 - "PRACE 8th Call for Proposals closes with larger allocations on all systems"
21. **2014-03-25 - PRACE Summer of HPC - Summer Placements at European HPC Centres – 1 July to 30 August 2014**
    2014-03-25 - PRACE Summer of HPC - Summer Placements at European HPC Centres – 1 July to 30 August 2014
22. 2014-03-27 - Researchers from Israel and Eastern Mediterranean Experience Four Days of Advanced HPC Training at the PRACE 2014 Winter School in Tel Aviv
    2014-03-27 - Researchers from Israel and Eastern Mediterranean Experience Four Days of Advanced HPC Training at the PRACE 2014 Winter School in Tel Aviv
23. **2014-04-28 – PRACE Spring School: Researchers from all over the world come to school in Austria**
    http://www.prace-ri.eu/Spring-School-2014-Austria
24. **2014-04-28 - Catherine Rivière, PRACE Council Chair, speaks at ICRI 2014 on the way forward for PRACE and HPC in Europe**
    http://www.prace-ri.eu/ICRI-Riviere
25. 2014-05-09- Cosmic Simulation: Where no Supercomputer has gone before.
    http://www.prace-ri.eu/cosmic-simulation-PR
26. 2014-05-12 - Barcelona hosts 500 experts in advanced computing
    http://www.prace-ri.eu/Barcelona-HPC-events-PR
27. 2014-05-13 - PRACE Annual Report 2013 now available!
    http://www.prace-ri.eu/AR-2013-PR
28. 2014-05-15 – The turbulent birth of stars in galactic collisions
    http://www.prace-ri.eu/galactic-collisions-PR
29. **2014-06-02 – PRACEdays14 concludes with 3 Awards**
    http://www.prace-ri.eu/PRACEdays14-Results-PR
30. **2014-06-03 - Welcome to the PRACE booth at ISC14 Exhibition**
    http://www.prace-ri.eu/PRACE-at-ISC14

Table 2 - Table of Press Releases

2.3.2 *PRACE Magazine*

The fourth PRACE Digest 1/2014 was published in 02/2014 with 51 pages. The theme of the magazine was *"Forward-looking Science"* and it presents Tier-1 or DECI project results as

well as Tier-0 or PRACE resource allocated results. The front cover can be seen in Figure 4. The contents are as follows:

- Editorial by Catherine Rivière
- Powering Up the Turbulence of Magnetic Fields
- Building Better Performing Organic Electronic Devices
- Pushing the Boundaries of Matter One Quark at a Time
- Stemming Across Europe
- Revving Up a Quieter Engine
- Super Brain Computing
- Computing Brain Power
- Designing Catalysts for Clean Energy Sources
- Back to the Big Bang
- Counterattack on the Flu Bug
- Zooming in on Climate Modelling
- Fuelling the Future
- Strengthening Core Values
- Raising the Temperature
- PRACE Advanced Training Centres (PATCs) Programme
- SHAPE Pilot: Compute to compete, a must for SMEs in Europe
- PRACE 9th Call for Proposals for Project Access
- PRACE Scientific & Industrial Conference 2014

Figure 4 - PRACE Magazine 4

2.3.3 *Printed Materials*

PRACE Composite Image

A new feature PRACE image to compliment the PRACE map was developed in November 2013(Figure 5), which you can see featured in the PRACE Magazine (Figure 4), illustrates PRACE's central position in the HPC and Science ecosystem and highlights the six Tier-0 HPC systems operated by the four hosting members. This image was made available for use in posters, booths and other communications.

Figure 5 - PRACE Composite Image & Pull-up Banner

PRACE Pull-up Banner

A pull-up banner featuring the PRACE composite image (Figure 5) was also designed and the design disseminated to partners for use in training, outreach, networking and other events.

PRACE Brochure

The PRACE brochure was updated in November 2013 to update member contact details, include social media information and to update relevant statistics. The updated brochure can be seen in Figure 6.

Figure 6 - Updated PRACE Brochure

2.3.4 *Advertising*

Advertisements in several publications to highlight PRACE events were produced during the reporting period.

Scientific Computing World

A full-page feature highlighting PRACE's offering at the Supercomputing Conference (SC) and Training Birds of a feather (Bof) session was published in Scientific Computing World in November 2013 (Figure 7).

Figure 7 - PRACE advertisement in Scientific Computing World (SC)

Similarly a full-page advert will be published in the forthcoming International ISC special edition of Scientific Computing World.

Research Review

A half page advertisement for Research Review is in production for July 2014. Research Review is a quarterly EU policy publication that focuses on research news and analysis. The target audience of the publication is Members of the European Parliament and the advertisement focuses on highlighting PRACE scientific work.

PRACEdays14 & PRACEdays15

Half-page advertisements were produced for PRACEdays14 and PRACEdays15 (Figure 8). These advertisements have been included in the PRACE annual report and the International Conference on High Performance Computing & Simulation (HPCS2014). It is anticipated that the PRACEdays15 advertisement will be used to promote the event further.

Figure 8 - PRACEdays15 Advertisement

2.3.5 *Social Media*

During the reporting period, PRACE continued its efforts to expose PRACE to its varied and diverse target audiences. These include the scientific and research communities, industry, policy makers, government and NGO funding agencies, competing organisations, peer groups, educators, the general public and internal audiences.

PRACE's social media activities in the PRACE-3IP project are under the auspices of the press team. Emphasis is on events, HPC community building, showcasing project results, and leveraging training events.

The activities are an extension of activities begun under the PRACE-2IP project, most notably experience gained in the PRACE-2IP outreach for high school students campaign [5], as well as building on the experience of the activities initiated by PRACE aisbl to date and the use of social media in event management and promotion, such as the Summer of HPC in PRACE-3IP. In addition, social media activities were coordinated and carried out in alignment with the planned transition from the PRACE IP projects to the PRACE aisbl taking over dissemination activities.

Twitter

The @PRACE_RI Twitter handle was created in 23 April 2012. Details of PRACE press releases, newsletters and announcements are pushed to followers of the PRACE Twitter handle. All parties to PRACE relations, including members, staff, etc., can suggest items to be tweeted.

As of 30 June 2014 there are 603 followers, compared to 283 a year ago, with PRACE following 64 accounts, compared with 51 a year ago. The increase can be attributed in part to the canvasing of PRACE partners regarding their Twitter presences and the implementation of reciprocal following. When tweeting the following hashtags are commonly used:

- #PRACE
- #HPC
- #PRACEday
- #Supercomputer

- #Supercomputing
- #PRACEaward
- #Newsletter
- #mailinglist
- #registration

Additional hashtags are added and used for specific needs, or events, such as #ISC13. During events, PRACE used the relevant hashtags to ensure event participants see PRACE tweets.

To date, PRACE has tweeted 229 times, 95 between April 2012 and 1 June, 2013, and 134 during the reporting period ending 30 June 2014.

The PRACE Communications Officer in Brussels moderates the @PRACE_RI handle. Authorised tweeters list includes:

- Marjolein Oorsprong, PRACE aisbl
- Renata Gimenez, BSC
- Tiina Leiponen, CSC
- Danica Stojiljkovic, IPB

The Summer of HPC program also tweets from a custom Twitter account: @SummerOfHPC

LinkedIn

A closed discussion group [6] and company page [7] are currently being maintained on LinkedIn by the PRACE aisbl.

The discussion group has 400 members, compared to 250 on 1 June, 2013. The page is managed by the PRACE aisbl Communications Officer, Marjolein Oorsprong, with Anni Jakobsson (CSC), Laetitia Baudin (GENCI) and Stephane Requena (GENCI) as managers. The Discussion Group provides a forum for professionals in the same industry or with similar interests to share content, find answers, post and view jobs, make business contacts, and position themselves in their communities as industry experts.

The Company Page serves as a place for PRACE to provide more information about products and services, job opportunities, and vision. Job postings have been maintained on the page. Other posts include links to the company or organisation website, or to other sites. The PRACE company page currently has 132 followers, compared to 55 on 1 June, 2013 and is maintained and managed by the PRACE Communications Officer, Marjolein Oorsprong.

YouTube

PRACE has an active YouTube channel. Six videos produced in previous PRACE-IP projects are posted, and in the reporting year, videos from ISC13 and the PRACE Summer of HPC 2013 Awards were uploaded. The Press Team leader, Marjolein Oorsprong manages the channel and this is regularly updated with appropriate visuals and addresses. A census of YouTube activity and potential content for the YouTube channel has been undertaken. Training and Outreach have been identified as significant potential users. It has been proposed to merge the Summer of HPC and PRACE YouTube channels (pending approval of the PRACE Board of Directors) and update the combined account with video content from Training, Outreach and other events.

Facebook

Following on from the successful campaign specific Facebook pilots in PRACE-2IP Dare to Think the Impossible [14] and PRACE-3IP Summer of HPC [10], it is recommended that an official PRACE Facebook page be implemented. However, as a result of lessons learned in

these pilots, it has been identified that a full-time social media response team and calendar are required to fulfil the real-time nature of the interaction, response and moderation on Facebook. It is currently not possible to implement such a team and consequently, rather than risk damage to the PRACE brand, the implementation of a Facebook page has been postponed. However, adequate resourcing for this is being pursued and will be a priority in subsequent work.

Summer of HPC

The Summer of HPC (SoHPC) has piloted the use of a blog on its dedicated website [9] and Facebook page [10] in addition to utilising Twitter [11], YouTube [13] and LinkedIn [12] as outlined in the PRACE SoHPC Social Media Strategy in the PRACE-3IP First Annual Dissemination and Outreach Report [1]. These efforts have continued through out this reporting period with Facebook likes increasing from 485 in the previous reporting period to 562 and Twitter followers from 123 to 169. Due to lower uptake and engagement in the target group on LinkedIn – likely as a result of age and student status - it was decided to discontinue its promotion on the platform during the SoHPC 2014, while keeping the group open for existing members. The SoHPC website recorded 10,559 users during the reporting period, from 128 different countries.

Monitoring Social Media

Following the trialling of Meltwater Buzz, a social media marketing software as outlined in PRACE-3IP First Annual Dissemination and Outreach Report [1], a review of the actionable information contained in the Meltwater Buzz reports was conducted. It was established that the data, while interesting, provided very limited actionable information outside of what is already available through Twitter. Therefore, this service was discontinued. Klout, a measure of social media influence, was also trialled by the Summer of HPC and provides an interesting benchmark for measuring the success of a social media interaction relative to prior interactions. This trial is continuing and once a PRACE Facebook presence is established, a Klout baseline for PRACE social media accounts will be pursued.

2.3.6 *Liaising with Journalists*

Purpose and Strategy

The objective of this subtask is to get in touch with national journalists and to generate publications in national languages in magazines and newspapers with PRACE-relevant content. To identify relevant journalists and stories, a 4-stage strategy was developed in the beginning and adapted by all countries (see PRACE-3IP First Annual Dissemination and Outreach Report [1]). After initial results in M1-12, this approach was maintained. In M13-24 the subtask participants were encouraged to contact journalists and develop stories independently and proactive.

Progress and Efforts Update

After the first 6 generated media clippings in M1-12, a further 27 publications were successfully put forth, as outlined in Table 3 and 5Annex. Austria, Israel and Slovenia turned out to have very effective media contacts. However, some subtask participants made every effort but were unable get a publication because of the complicated media situation in their countries. This was especially true in Italy, Poland and Serbia and unfortunately the efforts remained without concrete results.

Challenges included:

- Placement of press texts without advertisement or budget - less attention of magazines
- Finding the right topics /stories which fit into an editorial calendar
- Compressing/summarizing extensive topics to short messages/articles

	No.	Date	Country	Media
M1-12	1	March 2013	Ireland	Irish Times
	2	April 2013	Austria	derStandard
	3	April 2013	Slovenia	racunalniske-novice
	4	April 2013	Slovenia	Ventil
	5	April 2013	Czech Republic	Czech Focus
	6	June 2013	Slovenia	IRT 3000
M 13-24	7	Jul 2013	Czech Republic	Technicky Tydenik No. 14
	8	Jul 2013	Israel	Hayadan
	9	Jul/Aug 2013	Austria	http://medienportal.univie.ac.at
	10	Aug 2013	Czech Republic	Technicky Tydenik No. 16
	11	Oct. 2013	Hungary	Napi Gazdasag
	12	Oct 2013	Slovenia	ARNES
	13	Nov. 2013	Austria	OÖ Wirtschaft
	14	Nov 2013	Czech Republic	Technický týdeník No. 24
	15	Dec 2013	Slovenia	Računalniške novice
	16	Dec 2013	Slovenia	Ventil
	17	Jan 2014	Israel	The Jerusalem Post
	18	Feb 2014	Israel	Geektime.co.il
	19	Feb 2014	Israel	Sponsor.co.il
	20	Feb 2014	Israel	Talniri.co.il
	21	Feb 2014	Israel	http://www.knasim.com
	22	Feb 2014	Israel	http://www.yedatech.co.il/
	23	Feb 2014	Israel	http://techtime.co.il
	24	Mar2014	Israel	The Marker
	25	Apr 2014	Austria	Langenachtderforschung.at
	26	Apr 2014	Austria	Ooe-journal.at
	27	Apr 2014	Austria	Science.apa.at
	28	Apr 2014	Austria	Jku.at
	29	Apr 2014	Austria	Myscience.at
	30	May 2014	Hungary	Heti Valasz
	31	May 2014	Hungary	Hirado.hu
	32	May 2014	Hungary	Orientpress.hu
	33	May 2014	Hungary	Prim Online

Table 3 - Published articles

Over all, there were topics, which were taken up by the journalists more often than others. The following topics /stories were identified as very appealing to journalists:

- PRACE Events like Spring/Summer/Winter/ Campus Schools
- Events of national local PRACE Partner
- Summer of HPC –the hosting countries and the participants
- Supercomputing/HPC in general or special applications

Austria

In the period of M13-24 RISC first focused on the Austrian participant of the Summer of HPC who wrote exclusively a blog hosted by the University of Vienna. In November RISC published a text, which was about local know-how in HPC and PRACE resources. Because we had a PRACE Spring School in April, a press release was sent out to local press and very positive feedback was received. Furthermore there was a big event, called "the long night of science" where PRACE also was present. The event brochure – which was sent out locally, featured a description of the PRACE presence.

Czech Republic

The supercomputing centre at VSB is quite new and therefore is still trying to build its relationships with the local media. The publicity is the strongest usually around an important milestones and events such as inauguration of the cluster Anselm in May 2013. The first article about PRACE from Czech Republic was in the magazine of the Association for Foreign Investment. VSB was contacted by them to write an article about IT4Innovations and its services for their magazine Czech Focus, and information about PRACE was also included. The article was published in April 2013. A similar article was then published also in July in the 14th issue of the technical fortnightly magazine Technický týdeník. In order to further disseminate PRACE activities we have identified the following events as those that might interest media in the Czech Republic – PRACE Summer School that was organized in Ostrava and the student placement programme Summer of HPC. Reportage from the PRACE Summer School was published in the 16th issue of Technický týdeník in August 2013 and an interview with the two Czech participants of Summer of HPC was published in its 24th issue in November 2013.

Hungary

NIIF initially targeted publication in a national printed newspaper in order to reach out to the broader public. However, after contacting the editors and receiving little response, the help of professionals was sought. A PR agency whom we are working with in another project, was asked to help us via their contacts. We managed to set up an interview with a journalist from NAPI GAZDSÁG ('Daily economy') and then he wrote an article about NIIF and PRACE.

We held a couple of HPC classes in the past months and the Association of IT Teachers asked us to write an article on this activity, so we will have something published in print in June. This newspaper is called Tehetség (talent) and it is distributed among the IT teachers and high schools in nationwide in the country.

Since we will host the International HPC Summer School 2014, this topic is likely to make it into the press.

Israel

IUCC was successful in publishing several HPC-related items in the media over the last year. There were several announcements about the PRACE 2014 Winter School that took place in Tel Aviv in February 2014 that appeared in the Hebrew press. In addition, a technology blogger covered the event and that was posted online. At around the same time, an opinion

piece in both Hebrew and English was published in two major newspapers: the Jerusalem Post in English and the Marker economic daily in Hebrew. The participation of an Israeli student in the Summer of HPC 2013 program was also covered by the Tel Aviv University press and picked up by an online technology news service.

Slovenia

In the past two years we established good relationship with few journalists, which we are informing about our new activities in PRACE. One of them contacted us with the interest to publish an article about PRACE Seasonal School that we organized recently. As a result of this they published our article in their magazine on 3 pages.

We also contacted a lot of new journalists to publish the news about the winners of SoHPC and we accomplished to get 1 publication on this.

Below are all the articles we have published since June 2013.

1. IRT 3000 Magazine published our article about the Slovenian participation in PRACE. The article presents PRACE and its goals and Slovenian activities in PRACE (especially Campus School, Seasonal School, Summer of HPC). – June 2013
2. Publication about new steps for Slovenian supercomputing network was published by The Academic and Research Network of Slovenia (ARNES). Article also mentions PRACE Autumn School organized by Faculty of Mechanical Engineering, UL. – October 2013
3. Publication about the winners of SoHPC and Award Ceremony in Barcelona with major info about the project was published online by computer magazine Računalniške novice – December 2013
4. 3 pages long article was published in magazine Ventil. In this case the magazine contacted us to publish information about PRACE Autumn School 2013 - Industry Oriented HPC Simulations, which was organized at Faculty of Mechanical Engineering, UL. - December 2013
5. For the future we are expecting to publish information about two PRACE Campus Schools that we are planning to organize in summer 2014 as in-kind contribution to WP3 (school's programmes in consideration of PMO and BOD at the moment

Conclusion and Outlook

After staying in intensive contact with manifold journalists, the national PRACE partner institutions and PRACE general both benefit from this task in the same ways. First of all, the relevant journalists and newspapers are discovered, secondly the most attractive stories are found out. Thirdly, PRACE and Supercomputing/HPC are now already aware to these journalists. Regarding the media clippings, a large readership was reached.

In the future, some PRACE partners will continue the work within this subtask as there are upcoming events and still some publications in preparation, which should be published within the next few weeks. Looking further ahead, it would be useful to rely on the collected data and experience of this subtask and involve every PRACE partner country with its local language in this task.

2.4 Events

2.4.1 *ICT*

PRACE was represented at ICT 2013 in Vilnius from 5 to 8 November 2013 with a very attractive booth. ICT was organised by the European Commission and the Lithuanian Presidency of the Council of the EU and brought together ICT researchers, businesses, web start-ups and digital strategists to chart a path for Europe's ICT research policy. Booth staff reported a large number of people interested in the activities of PRACE and disseminated information, brochures and promotional material.

Jointly with EUDAT, PRACE hosted a networking session on Wednesday 6 November 2013 entitled EUDAT & PRACE tackle the Big Data Challenge.

Figure 9 - PRACE Booth at ICT

2.4.2 *SC*

PRACE once again exhibited at the Supercomputing Conference. SC14 provides a strong opportunity to meet and talk with the world's leading experts in HPC, networking, storage and analysis. PRACE presented an engaging and informative booth at SC'13, which was hosted in Denver, Colorado from 18-21 November 2013. Over 600 people visited the booth to speak to PRACE representatives, attend mini presentations, and participate in PRACE competitions. Three mini-presentations (one on each full day of the exhibition) drew large crowds to the booth.

Figure 10 - PRACE booth at SC'13 in Denver Colorado

2.4.3 *ICRI*

ICRI 2014, the 2nd International Conference on Research Infrastructure, offers a high level international forum where key stakeholders can meet, discuss and contribute to bringing forward global issues related to Research Infrastructures.

The conference was held in Athens, Greece, between the 2 and 4, April 2014, and was co-organised by the European Commission and the Greek EU Presidency of the European Union. ICRI 2014 takes forward the recommendations of ICRI 2012, and the 3rd EU-Australia Research Infrastructure workshop.

PRACE representatives were present at the conference. Formally, PRACE was presented in the 4th Parallel Session about E-infrastructures, Part 1: Sustainability and Business Models where Catherine Rivière, Chair of the PRACE Council gave a formal talk about PRACE in the context of the discussion. Further to that PRACE setup a booth to demonstrate to the delegates, Europe's world-class supercomputers and the scientific and industrial advancements that they make possible.

The material distributed and/or demonstrated at the booth where, the latest edition of the PRACE Digest, training brochures, PRACE videos, 3 PRACE posters, pens, USB sticks.

The PRACE Booth visitors had also the change to play "Shooting Stars", live at a computer installed at the booth and demonstrated on a large TV screen.

A large number of the conference delegates, representatives of all major eInfrastructures visited the booth, while most of the discussions where about finding out more details about the services and infrastructure that PRACE provides as well as the results and future prospects of the organization.

2.4.4 *RIDE*

PRACE exhibited at the Research Infrastructure Dissemination Event 2014 (RIDE2014) held in Croatia as a part of the biggest non-commercial technological Convention - MIPRO 2014. PRACE presented its activities within a booth among 9 other research infrastructures. 20 other research infrastructures were represented by A2 size posters. Additionally, separately from RIDE there were 20 commercial exhibitor booths. Dissemination materials ranged from brochures, Scientific case, candies, USB keys and T-shirts.

Figure 11 - PRACE Booth at RIDE

2.4.5 *ISC*

From 23 to 25 June, 2014, PRACE participated in the International Supercomputing Conference 2014 (ISC'14) that was held in Leipzig, Germany. The ISC Exhibition, the biggest HPC showcase in Europe connects about 170 HPC vendors and research centres with over 2,500 users and potential collaborators from around the globe. PRACE presented its resources, services, project outcomes and results of scientific and industrial applications obtained with PRACE resources.

The now traditional treasure hunt game was organised in collaboration with PRACE partners who also exhibited at ISC'14. The participants needed to learn about PRACE and answer few questions, as well as to visit the booths of PRACE partners in order to win a PRACE branded T-shirt and get the chance to win one of the two main prizes. Two prize drawings were preceded by mini presentations that highlighted HPC training opportunities and PRACE relations with HPC users from the industrial domain.

PRACE's "Dare to Think the Impossible" outreach campaign was again promoted, as the visitors were welcomed to the booth to play the "Shooting Stars" game, designed to attract younger population and incite their interest in HPC. Over hundred visitors tried out the game, and were awarded with a T-shirt featuring the logo of the campaign.

Many of ISC'14 participants visited the PRACE booth and they had the opportunity to talk to the PRACE representatives about the Partnership's mission, activities and results. They also had an opportunity to get PRACE branded USB memory stick, latest issues of PRACE Digest, PRACE Annual Report and other PRACE publications, or a small bookmark-calendar

that advertised the upcoming PRACE Scientific and Industrial Conference, a.k.a. PRACE Days 2015, which is to be held in May 2015 in Dublin.

2.4.6 *EGI Community Forum*

PRACE exhibited a stand in Helsinki Finland in EGI Community Forum from 19 to 23 May 2014. The Event took place at the University of Helsinki, and gathered about 400 participants from over 30 countries.

The exhibition of the EGI Community Forum 2014 was held between Monday 19 May and Wednesday 21 May.

2.4.7 *PRACEdays14 & PRACEdays15*

PRACEdays 14

Starting with the first PRACE Project in the Preparatory Phase, PRACE successfully organised a series of scientific conferences. They are listed in Table 4 - History of PRACE Scientific Conferences for reference:

Date	Title	Location
26.11.2008	Applications, Architectures and Training Needs for the Petascale Regime	Lyon, France Parallel to ISC2008
11. -13. 5. 2009	DEISA-PRACE Symposium 2009: HPC Infrastructures for Petascale Applications	Amsterdam, NL Together with DEISA
10. -12.2010	DEISA PRACE Symposium 2010	Barcelona, Spain Together with DEISA
13. -14.4.2011	DEISA PRACE Symposium 2011	Helsinki, Finland Together with DEISA
17.6.2012	PRACE Scientific Conference 2012: PRACEdays at ISC	Hamburg, Germany Collocated with ISC'12
16.6.2013	PRACE Scientific Conference 2013: PRACEdays at ISC	Leipzig, Germany Collocated with ISC'13

Table 4 - History of PRACE Scientific Conferences

In parallel the PRACE projects organised very successful industrial seminars(Table 5):

Date	Title	Location
3.9.2008	Industrial Competitiveness: Europe goes HPC	Amsterdam, NL
7. -8.9.2009	Industrial Competitiveness: Europe goes HPC	Toulouse, France
28. -29.3.2010	Third Seminar for Industrial Users: Europe goes HPC	Stockholm, Sweden
16. -17.4.2012	Fourth Seminar for Industrial Users: HPC driving Innovation in Europe	Bologna, Italy
15. -16.4.2013	Fifth Seminar for Industrial Users: HPC Changing Europe's Industrial Landscape	Bad Boll, Germany

Table 5 - History of PRACE Industrial Seminars

In mid 2013 the PRACE project and BoD decided to combine the two events and organise a joint conference addressing both scientific and industrial users.

Preparation of PRACEdays14

A Organisational and Programme Committee (OPC) was established consisting of:

- Turlough Downes, DCU, Chair User Forum
  Replaced by Gustavo Yepes, Universidad Autonoma de Madrid, the new UF chair
- Dietmar Erwin, FZ Jülich, Chair OPC
- Renata Giménez, BSC, Marketing and Communication Executive
  and Sara Ibanez, BSC
- Sergi Girona, BSC, Chair PRACE BoD
- Jürgen Kohler, Daimler, Chair IAC
- Marjolein Oorsprong, PRACE Communication Officer
- Anders Rhod Gregersen, Vestas, Vice-Chair IAC
- Kenneth Ruud, CTCC, Chair SSC

The full OPC held monthly telephone conferences starting in September 2013. To prepare the organisational aspect of the conference Dietmar Erwin, Renata Giménez, and Marjolein Oorsprong met in Barcelona on 24 July 2013 to inspect the conference facilities at the Universitat Politècnica de Catalunya (UPC). Barcelona had been selected as the location of the Sixth Industrial Seminar to be held on 21-22 May 2013 and it was decided to capitalise on the initial planning.

In addition a budget was prepared, the dissemination channels were defined, and a skeleton structure for the conference was created.

The OPC took the following key decisions:

- The motto 'HPC for Innovation – when Science meets Industry' was confirmed.
- The Acronym 'PRACEdays' was selected for the new series of PRACE conferences where the two-digit year would be appended to indicate a specific one (e.g. PRACEdays14).
- The venue UPC was approved for PRACEdays14
- The date: 20-22 May 2014 (Tuesday noon to Thursday noon) was confirmed.
- A nominal fee of 60€ will be charged to minimize no-shows. The fee will be waived for presenters.
- The structure of the conference was approved:
  - a single stream of sessions on Tuesday afternoon, Wednesday morning, and Thursday morning.
  - four parallel streams (grouped by topics) on Wednesday afternoon.
  - Posters will be displayed throughout the conference.
- The presentations will consist of:
  - Invited sessions
  - Oral presentations selected from the response to a call for contributions
  - Poster presentations selected from the response to a call for contributions
- One of the four parallel streams was reserved for the presentation of results from the SHAPE pilot for SMEs [15].
- The best Scientific, Industrial and poster presentation will receive an Award (a diploma and a sponsorship to participate for example in a PRACE training event).
- Scientific Computing World and HPCwire will be media sponsors.

- BarceloCongressos will provide technical support with the registration, hotel reservations, payments, and the preparation of the conference booklet.

The following keynote speakers were invited and confirmed

Dr. Francine Berman
Edward P. Hamilton Distinguished Professor in Computer Science
Rensselaer Polytechnic Institute

Dr. Paul C. Messina
Director of Science
Argonne Leadership Computing Facility

Dr. Matteo Dal Peraro
Assistant Professor of Life Sciences
Head of the Laboratory for Biomolecular Modeling
École Polytechnique Fédérale de Lausanne

Prof. Luís O. Silva
Professor of Physics
Instituto Superior Técnico Lisbon

Dipl.-Ing. Alexander Frederic Walser
Managing Director
asc(s e. V. (Automotive Simulation Centre Stuttgart)

Dr. Augusto Burgueño Arjona
DG CONNECT Head of Unit eInfrastructure
European Commission

A call for contributions was issued in November 2013 with a closing date of 31 January 2014. The proposers were asked to provide an extended abstract upon which the selection will be based. They were given the option to indicate a preference for an oral presentation, a poster or either. The SSC and the IAC selected the papers to be included into the conference programme and the poster session.

The full conference programme can be found on the PRACEdays14 webpage [16]. The full schedule is also available online [17].

Dissemination for PRACEdays14

Dissemination of PRACEdays14 was done through all regular PRACE channels: PRACE website dedicated page, homepage slide and menu banner; event announcements on HPCwire, iSGTW, Alpha Galileo; announcements and updated on Twitter and LinkedIn; direct mailing to all contacts of PRACE (via CRM); banner on the registration page of ISC14; individual invitations.

Two media sponsors were contracted for PRACEdays14: HPCwire, which did online announcing of the event; and Scientific Computing World (SCW), which included and advertisement in the February/March edition of their magazine and sent Tom Wilkie as the moderator of the final panel. SCW will also follow-up with editorial articles about the conference and its outcomes.

Summary of PRACEdays14

Conference bags with the PRACEdays14 logo were produced and filled with the conference booklet, a USB key, the PRACE Annual Report 2013, the PRACE Special Report, the PRACE Digest 2014, a copy of Scientific Computing World, a bookmark about PRACEdays15 (next year) and various other information.

Close to 200 scientific and industrial participants attended the conference and its satellite events, which included an open session of the PRACE User Forum, and a Workshop on Exascale and PRACE Prototypes.

The PRACEdays14 Award for Best Scientific Presentation went to Teodoro Laino of IBM Research – Zurich, Rüschlikon, Switzerland for his presentation entitled Shedding Light On Lithium/Air Batteries Using Millions of Threads On the BG/Q Supercomputer.

The PRACEdays14 Awards for Best Industrial Presentation was presented to Mathis Bode of RWTH Aachen University, Germany for his presentation entitled High fidelity multiphase simulations studying primary breakup.

All presentations can be found on the PRACEdays14 presentations webpage [18].

The PRACEdays14 Award for Best Poster was given to Kannan Masilamani of University Siegen, Germany for his poster entitled Simulating and Electrodialysis Desalination Process with HPC. All posters can be found here [19].

A video of highlights will be created to serve as a promotion for the next edition of PRACE Days, to be shown at ISC and SC as well as on the PRACE website.

Figure 12 - Dietmar Erwin, PRACEdays14 OPC speaking at PRACEday14

Satellite events

In conjunction with PRACEdays14 a Workshop on Exascale and PRACE prototypes was organised by BSC at UPC from Monday 19 May noon to Tuesday 20 May noon.

At the start of PRACEdays14 the PRACE User Forum took place and the PRACE Industrial Advisory Committee met on Thursday afternoon after the conference.

PRACEdays15

Already in December 2013 the planning for PRACEdays15 was started. All PRACE partners we invited to submit proposal to host PRACEdays15 in May 2015. Six partners offered to host the next PRACE conference. The OPC produced a short list of four partners based on the criteria location and accessibility, capacity, and cost.

The PRACE BoD analysed the offers in detail and selected the Aviva Stadium, Dublin, IRE on 26 to 28 May 2015.

Figure 13 - Aviva Stadium Dublin

2.5 PRACE CRM

During the past 12 months, PRACE CRM (Customer Relationship Management) activities have continued as planned. These have mainly involved the maintenance of PRACE contact details, use of the CRM's mass mailing system for sending PRACE news bulletins/announcements and use of contact details to extract relative PRACE statistics.

Maintenance of CRM contact details has mainly involved the addition of new contacts. Contact details gathered in various conferences (such as ISC 2013 and SC 2013), details of PRACE trainees (who attended PRACE or PATC training events) and details of Tier-0 and DECI users have included the majority of contacts whose details have been added to the CRM. Contact details, which are no longer valid, have also been removed from the CRM. These are identified whenever a contact's email address is no longer functional as identified by relative mail server messages whenever a message is sent to such an email address. As of as of 9 May 2014, the PRACE CRM stores the details of 7017 contacts – an increase of 1929 contacts compared to 1 June 2013 when the number of CRM contacts was last reported.

During the past 12 months, the PRACE CRM mass mailing system has been utilised to send various PRACE announcements and two PRACE Information Bulletins to all PRACE contacts. This capability is a very powerful outreach tool for PRACE given the large number of PRACE contacts and more frequent use of this capability should be encouraged in the future.

It has always been a matter of best practise to (when possible) tag PRACE CRM contacts based on the circumstance of when and how their contact details were collected (Figure 14). This was mainly done to allow for complete and concise records to be kept. In April 2014 these tags were used to provide relative PRACE statistics for PRACE aisbl. These included

the number of contacts from various European and other countries and the number of training contacts stored in the CRM. The figure below depicts the number of contacts gathered in various events throughout the years differentiating between industrial and academic contacts.

In the future, the PRACE CRM will continue its activities as in the past. The contact database will be maintained and further use of its mass mailing capability will be encouraged.

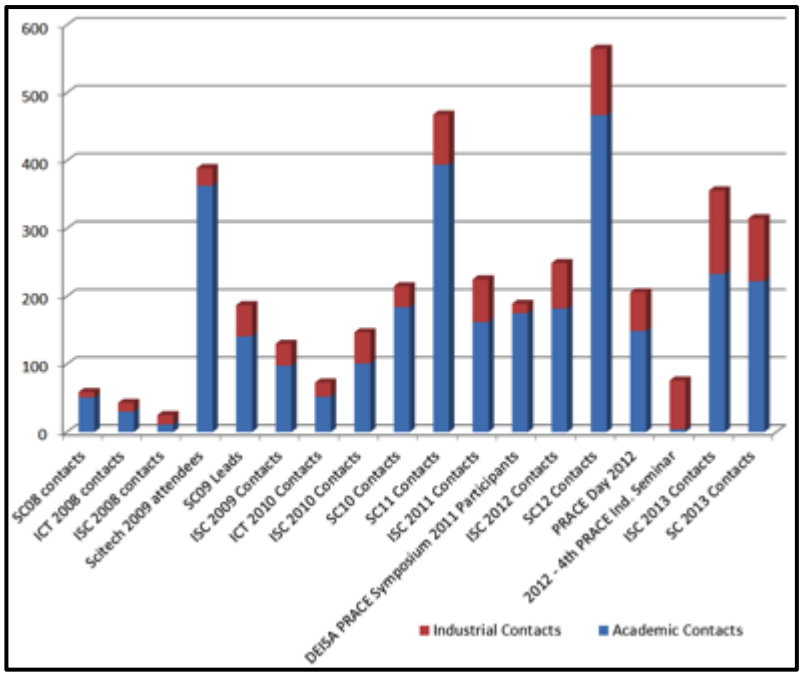


Figure 14 - Academic and Industrial Contacts gathered

3 Outreach

3.1 Summer of HPC (SoHPC)

3.1.1 *Introduction*

The PRACE Summer of HPC (SoHPC) is a PRACE outreach programme, which offered twenty-four undergraduate and postgraduate students the opportunity to spend two months during the summer 2013 at a HPC centre in a PRACE partner country. Participants undertook projects based on PRACE technical work or other work using PRACE resources, under the supervision of a Project Mentor, in order to produce a visualisation to be used in further PRACE outreach and dissemination activities. In addition, participants engaged in an outreach effort of their own by blogging about the programme and their experiences on the SoHPC website [9].

The primary goal of the SoHPC is to ensure a positive experience for all students and through that experience to encourage them in their path to become the next generation of HPC users.

The SoHPC was designed, implemented and managed at the Irish Centre for High-End Computing (ICHEC). It consists of four phases, Project Selection, Student Selection, Projects & Follow-on outlined in D3.2 [3]. The programme is currently in the follow-on phase. Phases one and two were reported on in D3.3 [1] and stages three and four are reported on below.

In addition, a smaller scale version of the programme, managed by National Information Infrastructure Development Institute (NIIF) has been implemented for Summer 2014 and is currently at stage two Student Selection.

3.1.2 *SoHPC 2013*

Twenty-four students from institutions in seventeen European countries were chosen from a wide pool of applicants in phase two and successfully completed a training week and their projects during July & August 2013.

Figure 15 - SoHPC Participants

3.1.3 *Training Week*

All participants took part in a training week 30 June – 5 July 2013 in EPCC, Scotland. The training week consisted of an Introduction to HPC PATC course including OpenMP and MPI training, as well as SoHPC specific training in visualisation and outreach. The visualisation training included an introduction to Paraview, VisIt and OpenGL. The outreach segment of training instructed participants on PRACE and the SoHPC programme including the projects, outreach, blogging and copyright issues. Participants were also provided with SoHPC t-shirts and took part in a photo shoot.

Sites

Participants arrived onsite in the ten participating centres 5-8 July 2013 to begin their placement on 9 July 2013. Each site hosted at least two students, some working individually on projects and others working jointly (see Table 6).

Country	Organisation	Number of Students	Number of Projects
Czech Republic	VSB-TUO	2	2
Denmark	UCHP	2	2
Hungary	NIIF	2	1
Ireland	ICHEC	3	3
Italy	CINECA	2	1
Serbia	IPB	2	2
Slovenia	ULFME	3	3
Spain	BSC	2	2
Turkey	UHEM	2	1
UK	EPCC	4	4

Table 6 - Sites

Each site had a dedicated Site Coordinator who was responsible for the success of the hosting process in their organisations and each project had a Project Mentor who supported the participants in completing their project. Mentor Sites, which had experience hosting students, were available by phone and email to those sites with less experience in making arrangements for students' stays. The programme plan outlined in D3.2 [3] included the option to have representatives from Mentors Sites visit less experienced sites but ultimately, these visits were unnecessary.

3.1.4 *Orientation*

The first week of the programme was dedicated to introductions, settling in and training. Site Coordinators arranged informal but tailored integration and support strategies for their participants based on the "Guide to Hosting a SoHPC Student" document provided to them by the Programme Coordinators at ICHEC. Each site arranged for participants to move into their accommodation, receive their stipend, have meetings with Project Mentors, tour their workspace and gain access to all the resources necessary to complete their projects, as well as other welcome and introductory activities. For example BSC participants attended a PUMPS training course, IPB held a welcome dinner and ULFME organised a site-seeing tour.

Projects

In the third week of the programme in conjunction with their project mentor, participants submitted a plan of work outlining week by week their targets for their projects. In the final week the students submitted a report in the form of a popular science article and also presented their work to other participants and mentors during a daylong teleconference. These presentations are available on the Summer of HPC YouTube channel [13].

3.1.5 *Blog & Media*

Throughout the programme, the participants blogged about their onsite experiences and projects via the SoHPC blog [9]. Participants authored a total of sixty-three posts and reached an audience of 13,000 unique visitors. Blog posts were promoted on social media attracting likes, shares and retweets on Twitter and Facebook and reaching an average weekly of audience of 1178 on Facebook.

The blog was moderated by a PRACE Board of Directors approved Moderator Panel including:

- Emma Hogan, ICHEC
- Renata Giménez, BSC
- Marjolein Oorsprong, PRACE aisbl
- Leon Kos, ULFME
- Veronica Teodor, PMO

In addition to their blogging efforts, the participants were featured in several external news articles (Table 7 - External Media SoHPC 2013).

Student	Date	Media
Mordechai Butrashvily	24.06.2013	IUCC website
Mordechai Butrashvily	24.06.2013	Local Newspaper
Alba Pedro Zapater & Maria Aston Serrano Gracia	04.07.2013	Universidad Zaragoza Newsletter
Alba Pedro Zapater & Maria Aston Serrano Gracia	04.07.2013	University Institute of Engineering Research of Aragon
Alba Pedro Zapater & Maria Aston Serrano Gracia	09.07.2013	Aragon Regional Newspaper
Alba Pedro Zapater & Maria Aston Serrano Gracia	09.07.2013	Research news website of Aragon Government
Vito Šimonka	10.07.2013	Univerza v Mariboru website
Nicolas Cuello	10.07.2013	EPCC blog - reblog
Vito Šimonka	15.07.2013	Slovenian news site
Vito Šimonka	15.07.2013	Slovenian news site
Vito Šimonka	15.07.2013	Faculty site
Vito Šimonka	15.07.2013	Department Site
Mordechai Butrashvily	29.07.2013	University Website
Mordechai Butrashvily	29.07.2013	University Website
Antoine De Wilide	11.09.2013	EPCC Blog - event featuring project
Antoine De Wilide	16.09.2013	EPCC Blog - event featuring project
Antoine De Wilide	23.09.2013	EPCC Blog - event featuring project
Hannes Grimm Strele	Through the programme	RISC blog

Table 7 - External Media SoHPC 2013

3.1.6 *Support*

Students were provided with support during their placement via their Project Mentors, Site co-ordinators and other technical experts. They also had access to the Student Support Forums hosted on the SoHPC website and participated in a weekly status teleconference with the Student Support Coordinators Emma Hogan and Leon Kos.

3.1.7 *Awards*

Students competed for two awards during the programme, PRACE HPC Ambassador, which was awarded to the student who best embodied the outreach spirit of the programme and Best Visualisation, awarded to the student with the best visualisation. Students were presented with awards at an awards ceremony held at Barcelona Supercomputing Center (BSC) by chair of the PRACE BoD Sergi Girona. A video of the ceremony was created and uploaded to the PRACE YouTube channel [8]. A PRACE Board of Management approved adjudication panel including members of the SSC, MB, BoD and SoHPC team judged the awards and selected the winners.

Figure 16 - PRACE HPC Ambassador Award Winner 2013 Vito Simonka (left) and Best Visualisation Award Winner 2013 Niki Loppi (Right)

3.1.8 *Follow on*

Participants were encouraged to get in touch with their home institutions and to present their research at their home universities. Students in Finland, Ireland and Spain presented to their class regarding their experiences on the Summer of HPC.

Participants were provided with a list of PRACE partners and potential PRACE training courses, and study or work opportunities that were available to them.

Permission was sought to retain contact details for all applicants and a mailing list created of those who would like to receive further communications.

3.1.9 *Evaluation*

A full evaluation of the programme was conducted in order to make recommendations for and support a subsequent implementation of the Summer of HPC. The evaluation was carried out with respect to the success criteria outlined in D3.2 [3].

The primary goal of the SoHPC is to ensure a positive experience for all students and through that experience to encourage them in their path to become the next generation of HPC users.

This was measured via:

Number of applicants (Target: **40**; Received: **198**)

These applications were received from students affiliated with institutions in twenty-six different countries and representing forty-five different nationalities.

Student Evaluation Form (Entrance & exit)

Student experience was captured through an entrance & exit questionnaire designed to measure their attitudes, opinions and experiences of PRACE, HPC and the Summer of HPC.

Student experience on the programme was uniformly positive and the programme was successful in encouraging the students to follow a career or further study in HPC.

- Percentage of students who would recommend the programme (Target **70%**; Received **100%**)
  - **100%** of student respondents would recommend the programme to a friend
  - **83%** would participate again, if given the opportunity, with 17% not sure.
  - **100%** stated they have gained valuable experience.
- Percentage of students who say they had a positive experience (Target **70%**; Received: **100%**)
  - **100%** of student respondents said they had a positive experience.
  - On a scale of 1-10, students rated their overall experience on average as **8.8/10**.
- Percentage of students who would consider a career using HPC (Target **30%**; Received **41%**)
  - **Prior** to starting the programme, **24**% of student respondents stated they would definitely like to pursue a career or further study in HPC. **After** the programme, **41%** of student respondents stated they would definitely like to pursue a career of further study in HPC.

Another goal of the programme was to generate goodwill around PRACE and HPC.

This was measured via:

Social Media Interaction

- Facebook likes: 497 at the end point of the 2013 programme (30 August 2013)
- Reached an average of 1178 people per week on Facebook, in 87 countries in total
- 134 Twitter follower at the end point of the 2013 programme and 100 tweets
- 67 blog entries, 62 from SoHPC participants and over 13,000 unique visitors.
- 1,687 lifetime views on YouTube at the end point of the programme
- Average Klout score of 46, which compares favourably to an average Klout score of 40.

The secondary goal of the programme was the successful completion of student projects; with the visualisations being of benefit to future PRACE outreach and dissemination activities. This was measured by:

Project Completion

- 100% of students produced visualisation/presentations
- 96% of students produced a final report
- 100% of students contributed to the blog

Use in Outreach and dissemination

Antoine de Wilde's Dinosaur Racing project has already been used in outreach events in the UK & Czech Republic. It is envisaged that this will be used for many future outreach events.

- *7 September 2013 - British Science Festival at Newcastle*
- *20-25 September 2013 - 25th EU Contest for Young Scientists at Prague, Czech Republic*
- *21 September 2013 - Bang goes the Borders 2013 at Melrose, UK*
- *25-26 September 2013 - Our Dynamic Earth at Edinburgh, UK*
- *8 October 2013 - Midlothian Science Festival in Dalkeith, UK*

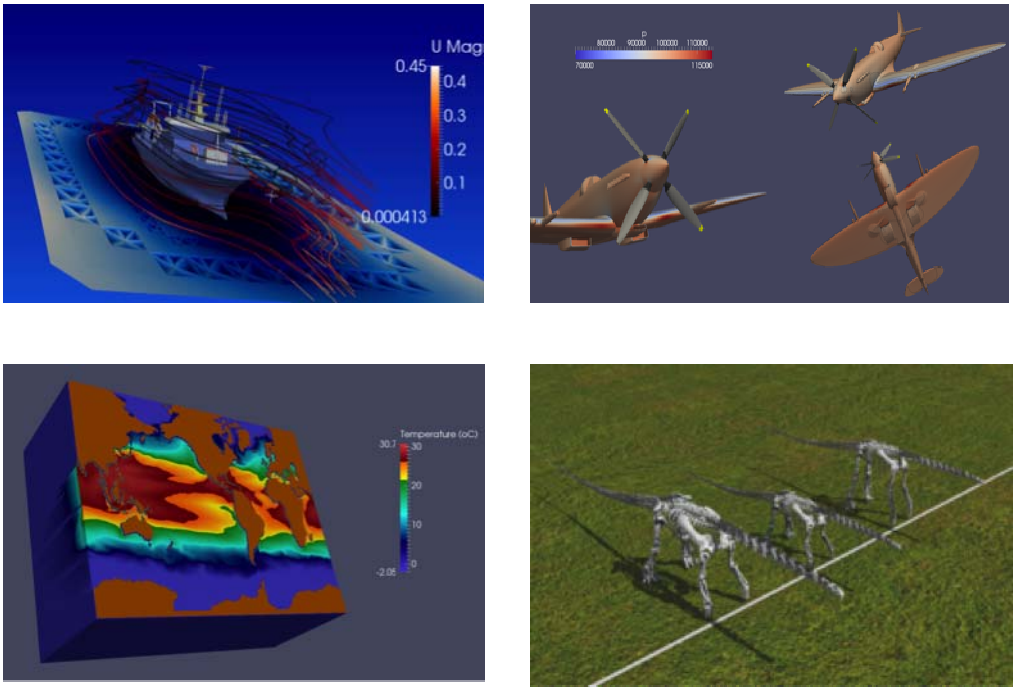


Figure 17 - SoHPC Projects 2013. Top left Alba Pedro-Zapater, Top Right Niki Loppi, Bottom Left Antonios Karkatsoulis, Bottom Right Antoine Dewilde

- *26 October - 3rd November 2013 - Manchester Science Festival, UK*

Summer of HPC visualisations, in particular Niki Loppi's airplane visualisation was used at the PRACE booth at the 25th EU Contest for Young Scientists in Prague 20-25 September 2013. Summer of HPC visualisations featured at the PRACE booth in SC, 16-22 November 2013 and ISC Booth in Leipzig 22-26 June 2014.

It is anticipated that the SoHPC visualisations will continue to be an important source of material for PRACE outreach and dissemination material.

3.1.10 *Documentation & Recommendations*

To support the logical transition to the PRACE aisbl, a manual on how to manage the SoHPC based on the experience in 2012-2013 was created. This manual also provided pointers on how to scale down the programme for 2014. In addition, lessons learned were presented and recommendations made to improve the programme. This is available on the BSCW and has informed management of the SoHPC 2014 by NIIF.

3.2 Summer of HPC 2014

3.2.1 *Introduction*

Following on from the positive evaluation of the Summer of HPC 2013, the PRACE council and PRACE Board of Directors approved a scaled-down version of the Summer of HPC to be run, funded by the PRACE aisbl with effort from PRACE partners in the cost neutral work extension of the PRACE-3IP project.

The National Information Infrastructure Development Institute (NIIF), Hungary, coordinates this light version of the programme in 2014.

The programme covers the flight tickets, accommodation and stipend for the successful applicants.

3.2.2 *SoHPC 2014*

Based on the costs of the programme in 2013 and the budget available, the programme decided to have 5 SoHPC sites this year with each site hosting 2 students and ideally providing two projects for them.

At the beginning of spring 2014 via an internal project mailing list (PRACE Management Board) the project Management office (PMO) announced that SoHPC is searching for sites that are willing to accommodate two students for two months in the summer of 2014. Sites had to fill out a template indicating in which projects can they involve their future SoHPC students, who will be their mentor and how can they handle their accommodation. At the end 6 partners sent in their site application for 2014. To decide which sites should participate in this year's programme a Site Selection Project was put together.

The Site Selection Panel consists of the following members:

Sergi Girona	Chair of the PRACE Board of Directors
Stephane Requena	Chief Technical Officer at GENCI
Ioannis Liabotis	Researcher at GRNET
Tamas Máray	Deputy director at NIIF
Antun Balaz	Associate Research Professor at the Institute of Physics Belgrade
Martti Louhivuori	Training Manager at CSC-IT Center for Science

Table 8 - Site Selection Panel SoHPC 2014

The Panel analysed the proposed sites projects and infrastructure during a teleconference and decided on the following sites (in alphabetical order):

1.	CINECA	Consorzio Interuniversitario, Bologna, Italy
2.	EPCC	The University of Edinburg, United Kingdom
3.	Jülich	Forschungszentrum Jülich, Germany
4.	ULFME	University of Ljubljana, Faculty of Mechanical Engineering, Slovenia
5.	VSB	Technical University of Ostrava, Czech Republic

Table 9 - SoHPC Sites 2014

Once the Site Selection Panel made its decision, the sites and their proposed projects were made public on the programme's webpage [9].

3.2.3 *Project Proposals*

Table 10 lists the projects, and project mentors by site.

Site	Project mentor	Project title
EPCC	Nick Johnson	Visualizing Energy Usage
	Nick Brown	Dinosaur racing to demonstrate the role of HPC in simulation
VSB	Tomas Karasek	Car race game demonstration. One student will work on GUI and game engine. The other student will work on whole work flow i.e. automated mesh generation and simulation using open source code OpenFOAM.
Jülich	Ivo Kabadshow	Simulation of physical many-body systems in MD
	Stefan Krieg	Simulations of Lattice Quantum Chromodynamics
ULFME	Marijo Telenta	Geometrically accurate wind barrier model in numerical simulation
	Leon Kos	ParaView plugin for fusion data structures
CINECA	Massimiliano Guarrasi	Visualizing the results of the project "The way to heating the solar corona: finely resolved twisting of magnetic loops"
	Luigi Calori	Visualization of turbulent structures of the wake

Table 10 - SoHPC 2014 Projects

3.2.4 *Application process*

This year we launched the Summer of HPC application process on 25 March 2014. PRACE launched the call for applications on the dedicated webpage [9], we prepared a press release [20], advertised on the programme's Facebook page [10] and promoted through PRACE's internal and external channels. We asked our partners to help us distribute the flyer shown in Figure 18 via their mailing lists.

Figure 18 - SoHPC 2014 Flyer

At first the application deadline was set for 18 April 2014. During the application period we experienced a rather low number of submitted applications, so we decided to extend the deadline by a week, setting the final deadline to 25 April 2014. In addition to that, we advertised our programme on a new platform, and invested in a Facebook ad. We put together an advertisement that reached thousands of potential applicants. At the end we received 44 applications for the 10 places.

3.2.5 *Review process*

Students submitted their application forms and CVs on the SoHPC website [9]. NIIF collected this information and distributed them between the sites. The sites had to review the candidates. Each candidate was reviewed twice, by two different sites. The review distribution happened randomly, but reviewers couldn't review candidates of the same country or nationality of their own. Reviewers used a four category ranking system, where Alpha was the best, Beta+ and Beta- were in the middle and Gamma was the category of the least convincing participants. We set a deadline for the reviewers to fill out the review templates. NIIF aggregated the results from the review sheets and created a ranking based on their grades. Since the sites are now aware of the projects they will work on this summer, we asked the sites to indicate whether there is a candidate whose background and sphere of interest meet the demands of their project or projects.

Once we agreed on the list of the top 10 candidates, NIIF sent out a notification letter on 30 May 2014. The chosen applicants were given a deadline (5 June 2014) to reply to the letter, they either confirm or decline their acceptance. Once they confirm their acceptance their local site coordinator contacts them in order to handle administrative issues like: flight tickets, accommodation details and the amount of the stipend.

At time of writing this report, the acceptance and selection process was underway, this process will continue until all positions are filled.

The students will have to spend two months working on their assigned project supervised by their project mentors. Time frame: 1 July- 30 August 2014.

3.3 Campus Schools

The PRACE Campus Schools focus on informing and engaging students aged 15-18 years about Science, Technology, Engineering, and Mathematics (STEM) through HPC. Applying various approaches, these events introduce students in an accessible manner to supercomputers, and their applications in STEM. Three Campus schools have been organised during the reporting period in Bulgaria in November 2013, Ireland in January 2014 and the Czech Republic in January 2014.

3.3.1 *Bulgaria*

The National Center for Supercomputing Applications (NCSA) held a campus school from 29 September to 5 October 2013 entitled PRACE Campus School BG – "Programming of the Supercomputing Applications" in Pravec, Bulgaria. This school targeted secondary students from different high schools in Bulgaria. In particular schools with a strong focus on STEM and with students with a record of achievement in STEM and a strong interest in natural science. Eighty pupils from Mathematics High Schools from all over the country took part.

The NCSA team demonstrated supercomputing as applied to STEM disciplines and illustrated HPC and parallel programming paradigms and concepts. Visualisations from scientific and industrial applications of HPC were also displayed, in addition to information on the latest HPC systems. The first day comprised of registration and orientation; the second focused on an introduction to Supercomputers, Bulgarian IBM Blue Gene/P and Linux; the third on parallel programming languages; the fourth on practical exercises in programming for Blue Gene/P; the fifth on an introduction to parallel programming; the sixth on Programming of heterogeneous systems and the final day students departed.

Students were able to participate in quizzes, games and competitions, accessing Bulgarian Supercomputer IBM Blue Gene/P located at the NCSA and, Heterogeneous Computer Cluster & IBM blade Center located ant the High-Performance and GRID computing Lab, located at the Technical University of Sofia, to run different tasks.

Both students and teachers were provided with a comprehensive overview of HPC and code development and optimisation techniques. They are now ready to begin to analyse simple codes used in science or engineering and it is hoped that some will be motivated to learn programming for supercomputers in the future.

3.3.2 *Ireland*

Building on the success of the PRACE campus school at the BT Young Scientist & Technology Exhibition (BTYSTE) in 2013, ICHEC once again showcased High-Performance Computer (HPC) or supercomputing to primary and secondary level students at the BTYSTE, 9 - 11 January 2014, its 50th Edition. During three jam-packed days at the stand in the World of Science & Technology Hall ICHEC displayed a fully configured live mini "supercomputer", PICHEC, built from the Raspberry Pi boards, 3D scientific visualisations of climate and weather data, and presented the latest in accelerators/coprocessors and ran introductory sessions into HPC. In addition visitors to the stand had the opportunity to compete against the clock to solve Sudoku puzzles in a game called Phidoku.

The booth had custom banners featuring the PRACE logo and composite image along with some eye-catching images and phrases (Figure 19 - PRACE BTYSE Campus School Banners

Figure 19 - PRACE BTYSE Campus School Banners

A fully operational cluster, PICHEC, was constructed from eight-networked Raspberry Pis (RPis) and was housed in a transparent enclosure so that students can see the inner workings of the parallel machine. Coloured cables were used to visually aid the students to understand how the cluster is constructed and how all the networked RPis work as one and was connected to a display to view various parallel computations including: a parallel Game of life and ray tracing demo.

Phidoku was a new game developed for the event where players competed against the clock and other players to solve Sudoku puzzles. Contestants were also competing against Ireland's newest supercomputer, Fionn, as its Intel Ivy Bridge and Intel Xeon Phi processors sought Sudoku grids that could be uniquely solved from only a 17 number hint. Close to three hundred games were played by over 230 students from 145 different schools around Ireland. In addition to the game players ICHEC staff interacted with hundreds more students and parents throughout the event (Figure 20).

Figure 20 - Crowds at the PRACE BTYSE Campus School

3.3.3 *Czech Republic*

In January it was Czech Republic's turn to host the PRACE outreach event dedicated to high school students called a Campus School. In order to reach as many high school students as possible the Campus School was held in Prague at an exhibition Gaudeamus from 28 to 29 January 2014 (Figure 21). It is a very popular event for students at the last year of their high school studies. The main objective of this exhibition is to present to the students possibilities of university education. The exhibition had 8,604 visitors.

Figure 21 - Images for the Gaudemus 2014. Students at the PRACE booth

We used this opportunity to introduce supercomputers as powerful helpers for scientists from various fields of science and to attract students to study technical subjects. At the centre of attention was a mini-supercomputer Permonik, built from 8 Raspberry Pi cards, which was used to explain the means of parallel computing. Students could compare the performance of their own devices - smartphones, tablets and laptops with the cluster and by guessing the power of the cluster to win a Kindle Paperwhite. 212 students participated in the quiz.

In order to give the students some interactive experience the Dinosaur racing demo and the Shooting Stars game were presented. The first is a race-based demonstration of how supercomputers are used to simulate dinosaur movement. It was developed at EPCC during the Summer of HPC programme. Shooting stars is a game with an astrophysics theme from the Dare to Think the Impossible campaign. Also real examples of the engineering applications were showcased such as simulations of airflow around cars, airplanes and wind turbines.

3.4 HPC Classes

3.4.1 *Introduction*

Similar to PRACE campus schools, PRACE HPC classes target secondary school age students, featuring practical demonstrations by HPC staff and scientists. HPC classes were conducted in Austria and the UK during the reporting period. In addition, PRACE had a presence at the EU Contest for Young Scientists (EUCYSC) held in Prague, Czech Republic September 21-23 2013.

3.4.2 *PRACE HPC Classes in Austria*

Following on from the HPC Class in the framework of the Upper Austrian Girls' Study Day 2013 another HPC Class was organised for the Upper Austrian Girls' Study Day 2014. But compared to 11 participants in 2013 only two pupils registered for 2014, which was also due to more than 260 organisations participating in 2014 for this joint school outreach activity for technical studies and education in Upper Austria.

Compensating for this a dedicated PRACE outreach activity was organized for the Long Night of Research 2014 for school kids. With over 1,500 people (most of them being families with children at the age of 8 to 16) attending this research event at the location of RISC, an impressive number of school kids but also teachers attending this event could be reached. An improved version of the Raspberry Pi Cluster already used at the HPC Class 2013 was built and used for demonstration purposes for pupils. In combination with existing material from the "Dare to think the impossible" campaign many disciples could be motivated for computer science and HPC in general. Also the purpose as well as the importance of HPC and PRACE for Europe, were clearly communicated during this event.

Focused school outreach activities within the PRACE activities HPC classes for schools will now also be integrated in the long-term outreach initiative "Tomorrow's Experts in Computing" from the Johannes Kepler University Linz.

3.4.3 *EU Contest for Young Scientists (EUCYS)*

The EU Contest for Young Scientists is an annual competition featuring the best and brightest students across Europe. It is a public event where people come to see the novel R&D produced by primary and secondary students. In addition to the contest area, there is an exhibitor space and PRACE showcased the achievements of PRACE and supercomputing at a booth. Over 2,500 members of the public attended the event. The PRACE booth included a bespoke design and three demonstrations: The Dinosaur Race demonstration from the Summer of HPC which illustrates the variety of applications that run on supercomputers; the Raspberry Pi cluster produced for the BTYSE booth in Ireland; and the shooting stars game developed for the PRACE-2IP Dare to Think the Impossible Campaign.

3.4.4 *UK Science Festivals*

PRACE were represented at two Science Festivals in the UK – the Manchester Science Festival held annually in Manchester and the British Science Festival 2013 that migrates across different UK cities every year –in 2013 it was held in the city of Newcastle upon Tyne.

Manchester Science Festival

The weekend of the 26th of October 2013 saw Eilidh Troup, Fiona Reid and Mario Antonioletti, all from EPCC, attend the Manchester Science Festival (MSF) held at the Manchester Museum of Science (MOSI). EPCC was using its "Supercomputing and You!" set of exhibits, which attempt to explain what modern supercomputers are, what makes them fast and how they are used. The EPCC booth happened to be inside the world's first railway platform - a nice contrast to the technology that was being demonstrated. A replica of an early steam train, Robert Stephenson's 1830 Planet, ran on the track just outside the venue, giving happy visitors an experience of what it was like to ride on an early steam train. We, in turn, tried to give our visitors an experience of what supercomputers are all about.

Figure 22 - Stephenson's 1830 Planet steaming ahead just outside the EPCC venue located in the world's first railway station now located inside the Manchester Museum of Science and Technology.

Our first demonstration asks visitors to sort a set of coloured balls into a set of box labelled with what colours need to go into it. This shows quite nicely how parallelism can speed-up problem solving. Building on this analogy, we then go on to do a show-and-tell using different motherboards from old actual supercomputers hosted at EPCC to explain how multiple processors can work together to solve a problem more quickly, just as the coloured balls were sorted faster when people worked together.

The final demonstration consists of our very popular dinosaur-racing demo, which was partly developed by a PRACE summer of HPC 2013 student. Visitors can visually configure the body size, and upper and lower leg lengths of an Argentinosaurus, amongst the largest known dinosaurs to have ever lived, which is then named and placed on a racing track. When enough dinosaurs have been created, they are raced against each other. Normally we would calculate the gait that would result from each model configuration on a supercomputer (HECToR in this case), but as we were not networked we had to operate the system on a 4-core laptop. The tag line being that if it ran on a supercomputer it would go even faster!!

A rolling presentation illustrated the various types of problems that supercomputers are being used to solve.

Overall, this event went well. We had about 450 visitors on the first day and about 310 on the second day.

British Science Festival 2013

EPCC staff also visited Newcastle to take part in the British Science Festival 2013 with demonstrations about virtual dinosaurs and a talk about prime numbers.

Iain Bethune, Nick Brown, Tom Edwards, and Alistair Grant set up a room in the Discovery Museum in Newcastle. The Learning Room, as it was called, was next to the Museum Archives where, if you looked closely in one of the cabinets, you could see a first-generation iPad.

We had brought with us a number of pieces of hardware, from a desktop PC to a Cray XT4. These pieces generated a lot of interest from the visitors who were keen to see the 'guts' of a supercomputer. Questions about them ranged from 'How different are they to the desktop?' to 'How can I buy one?' Many people were disappointed when they realised that a supercomputer was a little out of their budget.

Our interactive activities attracted a range of visitors, and the parallel card-sorting proved to be a lesson in cooperation for several families. It is estimated that several hundred people visited our exhibit throughout the day, and most stayed for a considerable period of time asking good and interesting questions.

The big attraction of the day was the dinosaur racing. At its public debut the simulator using GaitSym proved to be very popular and having the public use it has given us a lot of ideas on how to improve it to make it even better.

The British Science Festival was a success for the outreach efforts of EPCC and PRACE. It showed that there is a wide audience who want to know how these high-end systems work, who uses them and for what.

3.4.5 *Hungary*

In order to enhance PRACE's education and outreach activity, National Information Infrastructure Development Institute (NIIF) in Hungary organized HPC Classes to promote supercomputing among high school students. When we started organizing these events we were aiming at reaching out to students who age 15-18, and who are interested in informatics.

In Hungary, there is an association of teachers who teach information technology 'Informatika-Számítástechnika Tanárok Szövetsége' who helped us contact the schools who would be interested in participating in such event.

We were looking for schools who provide excellent computing teaching, because we wanted to avoid talking to uninterested pupils. We organized two classes at two schools, outlined in Table 11 - HPC Classes in Hungary.

Date	Venue	Participation rate
12th November, 2013	Ady Endre Grammar School, Budapest	Number of participants: 50 students, 5 teachers. (Students attended the class from three different schools.)
13th November, 2013	Egressy Béni Grammar School, Budapest	50 students, 3 teachers.

Table 11 - HPC Classes in Hungary

4 Summary and Conclusions

The results from the second twelve months of PRACE-3IP WP3 have been outlined in this deliverable. Work package three - Dissemination and Outreach – has successfully communicated the results of the PRACE-3IP project and promoted and publicised the activities and outputs of PRACE through press activities, presence at events, the organisation of PRACEdays14 and outreach initiatives. While much progress has been made there remains further work in supporting the transition to the PRACE aisbl and updating the PRACE web and social media presence. The work of PRACE-3IP WP3 will form a solid foundation for this subsequent work.

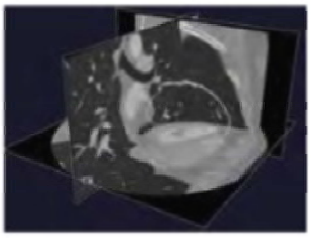
5 Annex

5.1 Austrian News Clipping (Table 3 - Published articles, Item 9)

Universität Wien

News › uni:view › Dossiers › Ein Sommer am Hochleistungsrechner

uni:view MAGAZIN



Summer of HPC: Vom Bild über das Gitter zur Simulation (5)

19. Aug Gastbeitrag von Hannes Grimm-Strele

Wöchentlich berichtet Mathematiker Hannes Grimm-Strele für uni:view von seinem Projektpraktikum am Hochleistungsrechenzentrum in Istanbul. Diese Woche beschreibt er sein Projekt näher, das sich schön langsam – wie auch der Sommer – dem Ende zuneigt. [weiter]

Summer of HPC: "Istanbul (Not Constantinople)" (4)

6. Aug Gastbeitrag von Hannes Grimm-Strele

Hannes Grimm-Strele von der Universität Wien ist der einzige österreichische Teilnehmer unter den 24 Studierenden, die – ausgewählt aus 189 BewerberInnen – ein Praktikum an verschiedenen Hochleistungsrechenzentren Europas verbringen dürfen. Im uni:view-Blog berichtet der junge Mathematiker aus Istanbul. [weiter]

Summer of HPC: Ankunft in Istanbul (3)

24. Jul Gastbeitrag von Hannes Grimm-Strele

Mathematiker Hannes Grimm-Strele ist gut am Hochleistungsrechenzentrum in Istanbul angekommen. Für uni:view berichtet er von seinen ersten Eindrücken aus der Metropole am Bosporus. [weiter]

Summer of HPC: erste Station Schottland (2)

10. Jul Gastbeitrag von Hannes Grimm-Strele

Für Mathematiker Hannes Grimm-Strele von der Universität Wien hat der Summer of HPC bereits begonnen. Die erste Woche verbrachten die 24 StudentInnen aus ganz Europa in Edinburgh, um Kurse an der Universität von Edinburgh zu hören. Für uni:view berichtet er in seinem zweiten Beitrag aus Schottland. [weiter]

Summer of HPC: Sommerpraktika in High Performance Computing (1)

5.2 Czech Republic News Clipping (Table 3 - Published articles, Item 7)

Aktuálně

Superpočítače – vysoce výkonní pomocníci vědy a výzkumu

- Jak zvýšit konkurenceschopnost vědy a výzkumu
- Cestu ukazuje PRACE - příležitost pro české vědce
- Anselm poskytne výpočetní prostředky

V areálu VŠB – TU Ostrava byl v minulých dnech v rámci projektu IT4Innovations spuštěn první superpočítač, jménem Anselm. Tento počítač má architektura výpočetního klastru, který se skládá z kolekce 2007 výpočetních uzlů (počítačů). Každý z nich je osazen dvěma 8jádrovými procesory architektury x86-64 SandyBridge, 64GB RAM paměti a lokálním diskem s kapacitou přibližně 300 GB.

Z uvedeného počtu je 23 uzlů navíc vybaveno GPU akcelerátorem Nvidia Tesla s 6GB pamětí a 4 uzly pak MIC akcelerátorem Intel Xeon Phi. Rozhraní k tomuto hardwaru tvoří plnohodnotný operační systém Linux, instalovaný na každém uzlu. Všechny uzly jsou vzájemně propojeny vysokorychlostní sítí Infiniband QDR, která umožňuje si mezi uzly vyměňovat velké objemy dat v krátkém čase s nízkou latencí.

Úkolem Anselmu (informací přinesl TT č. 12/2013) je poskytovat výpočetní prostředky, tj. strojový čas a základní programové vybavení pro vědecké výpočty. Anselm bude zájemcům dostupný také v rámci celoevropské superpočítačové infrastruktury PRACE.

PRACE (PARTNERSHIP FOR ADVANDCED COMPUTING IN EUROPE)

„Prace je neziskovou organizací se sídlem v Bruselu, která sdružuje klíčová superpočítačová centra z 20 zemí Evropy," vysvětlil nám její princip a poslání doc. Mgr. Vít Vondrák, Ph.D. člen Rady PRACE za Českou republiku. Podstatou PRACE, kde je ČR prostřednictvím IT4Innovations členem už třetím rokem, je zpřístupnit vysoce výkonné výpočetní a datové prostředky, které umožňují vědecké objevy, inženýrský výzkum a vývoj v rámci všech disciplín. Současně PRACE poskytuje podporu jejích uživatelům z evropské výzkumné a průmyslové sféry pořádáním řady nejrůznějších iniciativ. Tím se lku prospěchu evropské společnosti zvyšuje tolik žádaná konkurenceschopnost vědy a průmyslu.

Doc. Mgr. Vít Vondrák, Ph.D.

„Výzkumná infrastruktura PRACE," jak uvedl dál docent Vondrák, „je financována jednak z prostředků jednotlivých členských zemí, které přidělily vklad do roku 2015 ve výši více než 400 mil. EUR, tak a prostředků evropské komise, prostřednictvím projektů sedmého rámcového programu v celkové výši 607 mil. EUR." Většinu těchto prostředků rozděluje PRACE vědcům a výzkumníkům z akademické sféry a průmyslu z celého světa za pomoci tří grantových soutěží.

Preparatory Access je určen k testování a optimalizaci výpočetních kódů a přípravu projektů na vědecké úrovni v rámci grantové soutěže Project Access. Žádosti o přidělení zdroje jsou přijímány průběžně a každé tři měsíce jsou vyhodnoceny.

Project Access slouží jednotlivým výzkumným pracovníkům a výzkumným skupinám, včetně nadnárodních výzkumných skupin, kdy se přidělený výpočetní čas čerpá po dobu jednoho roku.

Multi-year Accessa je k dispozici velkým evropským projektům nebo infrastrukturám, které mohou těžit z prostředků PRACE po dobu delší než jeden rok a pro které není vhodný Project Access.

Multi-year a Project Access podléhají hodnocení, recenznímu řízení, kdy přední vědci rozhodují návrhy v rámci výzev, které jsou pořádány dvakrát ročně.

VÝPOČETNÍ PROSTŘEDKY PRACE ZÍSKALO JIŽ 6 PROJEKTŮ Z ČESKÉ REPUBLIKY

Mezi úspěšnými je Ing. David Horák, Ph.D., člen týmu prof. RNDr. Zdeňka Dostála, CSc., z katedry aplikované matematiky FEI VŠB – TU Ostrava.

Ing. David Horák, Ph.D.

„Náš výzkum je zaměřen na tzv. iákalovelné algoritmy typu FETI. Ty umožňují řešit obrovské úlohy, které by byly na jednom počítači téměř neřešitelné. Hlavní myšlenkou je rozložení těchto úloh na menší, které lze řešit současně na desetitisících až statisících jader. Tím se významně zkrátí čas i ušetří finanční prostředky. Naše aktivity spojené s vývojem algoritmů a jejich implementacemi jsou součástí výzkumného programu IT4Innovations. Laicky řečeno, vywíjíme efektivní algoritmy, které umožňují počítat rozsáhlé inženýrské úlohy na superpočítači ve velmi krátkém čase. FETI metody byly navíc implementovány do specializovaného open source software EL MER, který je určen pro řešení inženýrských multifyzikálních problémů z oborů mechaniky, akustiky, proudění, tání ledovců, elektromagnetismu a dalších. Má širokou uživatelskou základnu."

Doktor Horák se začal věnovat paralelním výpočtům už ve své diplomové práci, kdy jeho školitelem byl profesor Dostál. Své první paralelní experimenty realizoval už v roce 1997 na malém klastru postaveném doma ze dvou PC486 s Debianem. Na VŠB - TUO se dostal k IBM SP2, kdy poslítse s pomocí programu TRACS (předchůdce programu HPC - EUROPA) se mu podařilo dostat v roce 2001 k tehdy nejlepším výpočetním prostředkům jakými byly např. Cray T3E.

Pro zájemce o výpočetní prostředky z České republiky je doc. Horák tedy kontaktní osobou PRACE. Co by jim doporučil? „Aby se nebáli, našli si čas k vyplnění dotazníku a nenechali se odradit případným prvním neúspěchem. Náš tým jim při tom rád bude nápomocen."

PRACE realizuje nejen poskytování výpočetních prostředků, ale rovněž i školicí a výukové aktivity. Cestou mítinků a seminářů tak vytváří podmínky ke spolupráci i tvorbě nových výzkumných týmů, které jsou přínosem pro řešení různých úkolů a aktivit tolik žádaných naším průmyslem, vědou i technikou.

Oldřich Rouška

Brück AM vyvinul největší monolitní magnet na světě

AZ Tower: nejvyšší u nás, oficiálně

5.3 Israel News Clipping (Table 3 - Published articles, Item 8)

הידען
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סטודנט מאוניברסיטת תל-אביב זכה במקום בתגבית הקיץ של PRACE לחקר מערכות עתירת ביצועים(HPC)

קהילת המחקר הישראלית הבטיחה את מקומה ב-PRACE, תשתית המחקר המתקדמת ביותר באירופה לחקר מערכות עתירות ביצועים(HPC)

מרכז הרחשובים הביטאוביברסיטאי (מחב"א), הרשת הלאומית למחקר ופיתוח בישראל ומסקיות התשתית הקשורות, טכנולוגיות דיגיטליות, שירותי מחקר ונגיד למחקר אקדמי ותעשייתי, גאה להכריז כי הסטודנט מיתרי (מוסי) מטראשילי זכה במקום בתגבית הקיץ לחקר מערכות עתירות ביצועים(HPC) של PRACE (Partnership for Advanced Computing in Europe).

שהשלים הדוקטורט יחד עם שאר משתתפי התגבית באוניברסיטת קופנהגן לאחר שהשלים הדוקטורט יחד עם שאר משתתפי התגבית באוניברסיטת קופנהגן. בישראל יחקר במכון הדמיות אקלים של כדור הארץ במבר, בהנחיה ובפיתוח באמצעות האמצעים הטכנולוגיים המתקדמים ביותר. מוסי הוא סטודנט בחוג ללימודי גיאופיזיקה ומדעים אטמוספריים ואוקיאנוגרפיה באוניברסיטת תל-אביב בפקולטה למדעים מדויקים ע"ש ריימונד ובברלי סאקלר.

תגבית הקיץ לחקר מערכות עתירות ביצועים מציעה לסטודנטים (לתואר ראשון, ולסטודנטים בשלבים המוקדמים של התואר השני או שלישי את ההזדמנות לבלות חודשיים במרכז לחקר מערכות עתירות ביצועים בארצות השותפות במיזם PRACE. תגבית הקיץ מיועדת את הסטודנטים להמשיך במחקר מערכות עתירות ביצועים. מוסי הוא אחד מ-24 סטודנטים שנבחרו בקפידה מתוך למעלה מ-200 מועמדים.

הפרויקט שמוסי הוביל (Accelerate routines within the CCSM4 project using GP-GPU) נועד להגיע מענה לביקוש הגובר ב Community Climate System Model ((CESM באמצעות GP-GPU. מודל ה CESM-הוא מודל אקלים גלובלי המספק פתרונות מחשוב מתקדמים לדמויות אקלים. על מנת לשפר את הדמויות, חוקרי הרזולוציה והטיכנולוגיות של המודל גדלות באופן תדיר. יכולת של מוסי יכולה את מודל ה-CCSM4 ויכולה להיות סעולות אשר יסקו תועלת משמעותי ב GP-GPU-ויתאים אותן לעבודה בסביבה זו.

"אני שמח מאוד שבזכותי לפרויקט המסעיני הזה נתן שהוא ולמוסי לעבודה האקדמית האיכותית שאני עסוק בה הן במסגן הסבוי הן במסגן המדעי", אמר מוסי. "אני מודה על התמיה המהדהדת הזו והחדמנות להמשיך ולשתף פעולה עם מדענים צעירים רבים אחרים. לא פחות חשוב מכך, אני גאה לייצג את ישראל, אוניברסיטת תל-אביב, ואמדעי הישראלי בכלל בתלק מקבוצת המחקר".

מרכז הרחשובים הביטאוביברסיטאי החל לייצג את ישראל ב PRACE-ב-2013. ישראל היא אחת מ-25 המדינות אשר משתתפות בקונסורציום PRACE. המבנות מאפשרות לחוקרים ישראלים באקדמיה גישה חופשית למשאבי מחשב בשווי של מאות מיליוני אירו, ולמבנות כגון תגבית הקיץ לחקר מערכות עתירות ביצועים. מחשבי העל של PRACE הם בין המחשבים המהירים ביותר בעולם. הן עלות מעל ל-400 מיליון אירו, ומממנות במשותף על ידי האיחוד האירופי.

"ההחלטה להצטרף ל PRACE-היה חלק מהרחיבות שלנו ליישר קו עם יתרי המחקר של קהילות המחקר והמדע הישראליות. אנו חשוב לקראת השנות מחשוב-על בישראל. אמתנו נרשים למרום למאמץ הכלל-אירופאי," אמר פרופ' שלמי דולב, יו"ר הועד המנהל של מחב"א. "החברות ב PRACE-היא חלק ממסרת מרב"א לטפק רשתות עתירות ביצועים וטכנולוגיות חדשות, ולקדם את המשאבים והנטים בארץ".

תשתית המחקר של PRACE מפתחה למחקר ישראלי בעלי השפעה אירופאית וביללאומית מובהקת. הקראה לפרויקטים חדשים נעשית מעמיים לשנה דרך ה OPEN CALLS.קול קורא. הפרויקטים המצעים עוברים מהלך של שיפוט עמיתים ומוערכים על-ידי מדענים מובילים.

בנוסף לכך, פרב"א גאה לארח את סמינר ההיתרי של PRACE בקמפוס של אוניברסיטת תל-אביב בפברואר 2014. הסמינר האמור הזה מציע תגבית ייחודית בעלת שני חלקים: בחלקי הראשון והתמונות המעשית הקלאסית, התגבית כוללת מיני-סדנאות בנושא "שדין של מערכות עתירות ביצועים: חדשות ישראליות", אשר בהן חברות וחוקרים ישראליים בתחומי מערכות עתירות ביצועים יציג את עבודתם. ההתמונות המעשית תתמקד בסדנת הכרות בנושא מיישום PRACE הניתן שבאמצעותי יתובר בקמפוסן הקיץ יהווה תמסת למסיבר הענפי בתל-אביב, שם יסייע במדריך.

http://www.hayadan.org.il/chemistry-museum-260713/