CV
Standard DRAC form

Number of pages: 41

First name and surnames: Corbalan Gonzalez, Julita

Date: 17/april/2013

Signature: Corbalan, J.

The undersigned hereby states that the information in this CV is true and is notified that she/he shall be held liable for any claims arising from inaccuracies and that she/he may be subject to requests for further information or proof of veracity during the assessment process.

You must sign in the margin of every page.
1. Personal details

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<td>1. DOCTOR ENINVER EN INFORMÀTICA</td>
<td>1. Universitat Politècnica de Catalunya</td>
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4. Scientific or professional activities prior to current status

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<td>2. Universitat Politècnica de Catalunya</td>
<td>2. 01/01/1999 - 04/03/2001</td>
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<tr>
<td>3. Associate lecturer</td>
<td>3. Universitat Politècnica de Catalunya</td>
<td>3. 05/03/2001 - 31/08/2004</td>
</tr>
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## A. Publications

### A.1 Journal papers

**Authors:** Etinski, M.; Corbalan, J.; Labarta, J.; Valero, M.  
**Research groups:** CAP - High Performance Computing Group  
**Title:** Parallel job scheduling for power constrained HPC systems  
**Journal (title, volume, first-last page):** Parallel computing, vol. 38, no. 12, pp. 615-630  
**ISSN:** 0167-8191  
**Impact assessment agencies:** JCR-Science Edition (2011)  
**Impact factor:** 1.311  
**Number of citations:**  
**Year:** 2012  
**Link to text:**

**Authors:** Utrera, G.; Tabik, Siham; Corbalan, J.; Labarta, J.  
**Research groups:** CAP - High Performance Computing Group  
**Title:** A job scheduling approach for multi-core clusters based on virtual malleability  
**Journal (title, volume, first-last page):** Lecture notes in computer science, vol. 7484, pp. 191-203  
**ISSN:** 0302-9743  
**Impact assessment agencies:** SCOPUS-SJR-SCImago Journal Rank (2010)  
**Impact factor:** 0.032  
**Number of citations:**  
**Year:** 2012  
**Link to text:**

**Authors:** Etinski, M.; Corbalan, J.; Labarta, J.; Valero, M.  
**Research groups:** CAP - High Performance Computing Group  
**Title:** Understanding the future of energy-performance trade-off via DVFS in HPC environments  
**Journal (title, volume, first-last page):** Journal of parallel and distributed computing, vol. 72, no. 4, pp. 579-590  
**ISSN:** 0743-7315  
**Impact assessment agencies:** JCR-Science Edition (2011)  
**Impact factor:** 0.859  
**Number of citations:**  
**Year:** 2012  
**Link to text:**

**Authors:** Rodero, I.; Guim, F.; Corbalan, J.; Fong, L.; Sadjadi, S.  
**Research groups:** CAP - High Performance Computing Group  
**Title:** Utilization driven power-aware parallel job scheduling  
**Journal (title, volume, first-last page):** Future generation computer systems, vol. 26, no. 1, pp. 72-86  
**ISSN:** 1865-2034  
**Impact assessment agencies:** SCOPUS-SJR-SCImago Journal Rank (2010)  
**Impact factor:** 0.071  
**Number of citations:**  
**Year:** 2010  
**Link to text:** http://www.sciencedirect.com/science/article/pii/S0167739X09000995
Authors: Guim, F.; Rodero, I.; Corbalan, J.
Research groups: CAP - High Performance Computing Group
Title: The resource usage aware backfilling
ISSN: 0302-9743 Year: 2009
Impact factor: 0.032 Number of citations:
Link to text:

Authors: Duran, A.; Corbalan, J.; Ayguade, E.
Research groups: CAP - High Performance Computing Group
Title: Evaluation of OpenMP Task Scheduling Strategies
Journal (title, volume, first-last page): Lecture notes in computer science, vol. 5004, no. 1, pp. 100-110
ISSN: 0302-9743 Year: 2008
Impact factor: 0.033 Number of citations:
Link to text:

Authors: Utrera, G.; Corbalan, J.; Labarta, J.
Research groups: CAP - High Performance Computing Group
Title: Dynamic load balancing in MPI jobs
ISSN: 0302-9743 Year: 2008
Impact factor: 0.032 Number of citations: 5
Link to text: http://www.springerlink.com/content/857321v4615gum34/

Authors: Guim, F.; Rodero, I.; Corbalan, J.; Labarta, J.; Oleksiak, A.; Nabrzyski, J.
Research groups: CAP - High Performance Computing Group
Title: Uniform job monitoring in the HPC-Europa project: data model, API and services
ISSN: 1741-1106 Year: 2007
Impact factor: 1.919 Number of citations:
Link to text:

Authors: Francesc, G.; Rodero, I.; Corbalan, J.; Labarta, J.; Oleksiak, A.; Nabrzyski, J.
Research groups: CAP - High Performance Computing Group
Title: Uniform Job monitoring in the HPC - Europa Project: Data model API and services
ISSN: 1741-1106 Year: 2007
Impact factor: 1.919 Number of citations:
Link to text:
Authors: Guim, F.; Rodero, I.; Corbalan, J.; Labarta, J.
Research groups: CAP - High Performance Computing Group
Title: Portal de acceso a recursos HPC en entornos Grid. Accessing to HPC Resource and Job Monitoring Information Using the HPC-Europa Portal
Journal (title, volume, first-last page): Iris (Madrid), vol. 80, no. 1, pp. 67-71
ISSN: 1139-207X
Impact assessment agencies:
Impact factor:
Year: 2007
Number of citations:
Link to text:

Authors: Guim, F.; Rodero, I.; Corbalan, J.; Labarta, J.
Research groups: CAP - High Performance Computing Group
Title: Portal de acceso a recursos HPC en entornos grid
Journal (title, volume, first-last page): Iris (Madrid), vol. 80, pp. 67-71
ISSN: 1139-207X
Impact assessment agencies:
Impact factor:
Year: 2007
Number of citations:
Link to text:

Authors: Rodero, I.; Corbalan, J.; Badia, R.; Labarta, J.
Research groups: CAP - High Performance Computing Group
Title: eNANOS gris resource broker
Journal (title, volume, first-last page): Lecture notes in computer science, vol. 3470, pp. 111-121
ISSN: 0302-9743
Impact factor: 0.402
Year: 2005
Number of citations:
Link to text:

Authors: Rodero, I.; Corbalan, J.; Badia, R.M.; Labarta, J.
Research groups: CAP - High Performance Computing Group
Title: eNANOS Grid Resource Broker
Journal (title, volume, first-last page): Lecture notes in computer science, no. 3470, pp. 111-121
ISSN: 0302-9743
Impact factor: 0.402
Year: 2005
Number of citations:
Link to text:

Authors: Utrera, G.; Corbalan, J.; Labarta, J.
Research groups: CAP - High Performance Computing Group
Title: Scheduling of MPI Applications: Self-co-scheduling
Journal (title, volume, first-last page): Lecture notes in computer science, vol. 3149, pp. 238-245
ISSN: 0302-9743
Impact factor: 0.513
Year: 2004
Number of citations:
Link to text:
A.2 Conference papers

Authors: Utrera, G.; Tabik, Siham; Corbalan, J.; Labarta, J.

Research groups : CAP - High Performance Computing Group

Title: A job scheduling approach for multi-core clusters based on virtual malleability

Pages (first-last): 191-203 Type of publication: Full text
ISBN: 978-3-642-32819-0 Legal deposit no.: 1007/978-3-642-32820-6
URL to publication: http://dx.doi.org/10.1007/978-3-642-32820-6_20

Conference edition: 18th International European Conference on Parallel and Distributed Computing

Town/city: Rhodes Island Country: Grècia

Authors: Etinski, M.; Corbalan, J.; Labarta, J.; Valero, M.

Research groups : CAP - High Performance Computing Group

Title: Optimizing job performance under a given power constraint in HPC centers

Pages (first-last): 257-267 Type of publication: Full text
ISBN: 978-1-4244-7603-8
URL to publication: http://ieeexplore.ieee.org/xpl/mostRecentIssue.jsp?punumber=5586929


Town/city: Chicago, IL Country: Estats Units d'Amèrica
| Authors: Etinski, M.; Corbalan, J.; Labarta, J.; Valero, M. |
| Research groups: CAP - High Performance Computing Group |
| Title: Linear programming based parallel job scheduling for power constrained systems |
| Pages (first-last): 72-80 |
| URL to publication: http://ieeexplore.ieee.org/xpl/mostRecentIssue.jsp?punumber=5979720 |
| Year: 2011 |
| Town/city: Istanbul |
| Country: Turquia |

| Authors: Guim, F.; Rodero, I.; Corbalan, J.; Parashar, M. |
| Research groups: CAP - High Performance Computing Group |
| Title: Enabling GPU and many-core systems in heterogeneous HPC environments using memory considerations |
| Pages (first-last): 146-155 |
| ISBN: 978-0-7695-4214-0 |
| URL to publication: |
| Conference edition: 12th IEEE International Conference on High Performance Computing and Communications |
| Year: 2010 |
| Town/city: Melbourne |
| Country: Austràlia |

| Authors: Etinski, M.; Corbalan, J.; Labarta, J.; Valero, M. |
| Research groups: CAP - High Performance Computing Group |
| Title: BSLD threshold driven power management policy for HPC centers |
| Pages (first-last): 1-8 |
| ISBN: 978-1-4244-6533-0 |
| URL to publication: http://ieeexplore.ieee.org/xpl/mostRecentIssue.jsp?punumber=5465895 |
| Conference edition: 24th IEEE International Parallel and Distributed Processing Symposium |
| Year: 2010 |
| Town/city: Atlanta, Georgia |
| Country: Estats Units d'Amèrica |

| Authors: Becerra, Y.; Corbalan, J.; Costa, J.; Gil, Marisa; Guitart, J. |
| Research groups: CAP - High Performance Computing Group |
| Title: Validación de conceptos adquiridos en una asignatura de proyecto: experiencia en ProSO |
| Pages (first-last): |
| Published: XIII Jornades de Docència del DAC. Actes i presentacions. 2010. |
| URL to publication: |
| Conference edition: XIII Jornades de Docència del Departament d'Arquitectura de Computadors |
| Year: 2010 |
| Town/city: Barcelona (Catalunya) |
| Country: Espanya |
Authors: Nou, R.; Giralt, J.; Corbalan, J.; Tejedor, E.; Fito, J.; Perez, J.; Cortes, A.
Research groups: CAP - High Performance Computing Group
Title: XtreamOS application execution management: a scalable approach
Pages (first-last): 49-56  Type of publication: Full text
URL to publication:
Type of conference edition: Conference Year: 2010
Town/city: Brusel.les Country: Belgium

Authors: Garcia, M.; Corbalan, J.; Labarta, J.
Research groups: CAP - High Performance Computing Group
Title: LeWI: a runtime balancing algorithm for nested parallelism
Pages (first-last): 526-533  Type of publication: Full text
URL to publication: http://ieeexplore.ieee.org/xpl/mostRecentIssue.jsp?punumber=5361797
Conference edition: 38th International Conference on Parallel Processing
Type of conference edition: Conference Year: 2009
Town/city: Vienna Country: Austria

Authors: Rodero, I.; Guim, F.; Corbalan, J.; Fong, L.; Sadjadi, S.
Research groups: CAP - High Performance Computing Group
Title: Broker selection strategies in interoperable grid systems
Pages (first-last): 59-79  Type of publication: Full text
URL to publication:
Conference edition: 38th International Conference on Parallel Processing
Type of conference edition: Conference Year: 2009
Town/city: Roma Country: Italy

Authors: Guim, F.; Rodero, I.; Corbalan, J.
Research groups: CAP - High Performance Computing Group
Title: The resource usage aware backfilling
Pages (first-last): 59-79  Type of publication: Full text
URL to publication: http://link.springer.com/book/10.1007/978-3-642-04633-9/page/1
Conference edition: Workshop on Job Scheduling Strategies for Parallel Processing 2009
Type of conference edition: Conference Year: 2009
Town/city: Roma Country: Italy
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<td>Authors: Duran, A.; Corbalan, J.; Ayguade, E.</td>
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| Authors: Guim, F.; Corbalan, J.; Labarta, J. |
| Research groups: CAP - High Performance Computing Group |
| Title: Resource sharing usage aware resource selection policies for backfilling strategies |
| Pages (first-last): 1-8 | Type of publication: Full text |
| ISBN: 978-0-9553018-7-2 | Legal deposit no.: |
| URL to publication: |

| Authors: Francesc, G.; Corbalan, J.; Labarta, J. |
| Research groups: CAP - High Performance Computing Group |
| Title: Modeling the impact of resource sharing in Backfilling policies using the Alvio Simulator |
| Pages (first-last): 1 | Type of publication: Full text |
| ISBN: | Legal deposit no.: |
| Published: IEEE Computer Society will publish the conference proceedings for MASCOTS'07. xxxx. 2007. |
| URL to publication: |

| Authors: Rodero, I.; Francesc, G.; Corbalan, J.; Labarta, J. |
| Research groups: CAP - High Performance Computing Group |
| Title: Design and Implementation of a General Purpose API of Progress and Performance Indicators |
| Pages (first-last): 1 | Type of publication: Full text |
| ISBN: xxx | Legal deposit no.: |
| URL to publication: |

Corbalan Gonzalez, Julita, 43514650F
The Grid Backfilling: a Multi-Site Scheduling Architecture with Data Mining Prediction Techniques

Towards Uniform and Transparent Access to the Grid Universe Information Using the Palantir

Integrating the palantir grid meta-information system with GRMS

Integration of the eNANOS execution framework with GRMS for grid purposes
Soporte para el análisis de workloads en el proyecto eNANOS

Authors: Rodero, I.; Corbalan, J.; Alejandro, D.; Duran, A.; Labarta, J.
Research groups: CAP - High Performance Computing Group
Title: Soporte para el análisis de workloads en el proyecto eNANOS
Pages (first-last): 379-386
Type of publication: Full text
ISBN: 84-9732-430-7
URL to publication:
Conference edition: XVI Jornadas de Paralelismo
Type of conference edition: Working session
Year: 2005
Town/city: Granada
Country: Espanya

Dynamic load balancing in MPI jobs

Authors: Utrera, G.; Corbalan, J.; Labarta, J.
Research groups: CAP - High Performance Computing Group
Title: Dynamic load balancing in MPI jobs
Pages (first-last): 117-129
Type of publication: Full text
ISBN: 978-3-540-77703-8
URL to publication:
Type of conference edition: Conference
Year: 2005
Town/city: Higashikasugano, Nara
Country: Japan

Automatic Thread Distribution For Nested Parallelism In OpenMP

Authors: Duran, A.; Gonzalez, M.; Corbalan, J.
Research groups: CAP - High Performance Computing Group
Title: Automatic Thread Distribution For Nested Parallelism In OpenMP
Pages (first-last): 121-130
Type of publication: Full text
URL to publication:
Type of conference edition: Conference
Year: 2005
Town/city: Massachusetts
Country: Estats Units d'Amèrica

Another approach to backfilled jobs: applying Virtual Malleability to expired windows

Authors: Utrera, G.; Corbalan, J.; Labarta, J.
Research groups: CAP - High Performance Computing Group
Title: Another approach to backfilled jobs: applying Virtual Malleability to expired windows
Pages (first-last): 313-322
Type of publication: Full text
URL to publication:
Type of conference edition: Conference
Year: 2005
Town/city: Massachusetts
Country: Estats Units d'Amèrica
Authors: Utrera, G.; Corbalan, J.; Labarta, J.
Research groups: CAP - High Performance Computing Group
Title: Another approach to backfilled jobs: applying Virtual Malleability to expired windows
Pages (first-last): 313-322 Type of publication: Full text
ISBN: 1-59593-167 Legal deposit no.:
URL to publication:
Type of conference edition: Conference Year: 2005
Town/city: Massachusetts Country: Estats Units d'Amèrica

Authors: Rodero, I.; Corbalan, J.; Badia, R.M.; Labarta, J.
Research groups: CAP - High Performance Computing Group
Title: eNANOS Grid Resource Broker
Pages (first-last): 111-121 Type of publication: Full text
ISBN: 3-540-26918-5 Legal deposit no.:
URL to publication:
Conference edition: European Grid Conference
Type of conference edition: Conference Year: 2005
Town/city: Amsterdam Country: Països Baixos

Authors: Utrera, G.; Corbalan, J.; Labarta, J.
Research groups: CAP - High Performance Computing Group
Title: Implementing Malleability on MPI jobs
Pages (first-last): 215-224 Type of publication: Full text
ISBN: 0-7695-2229-7 Legal deposit no.:
URL to publication:
Conference edition: 13th International Conference on Parallel Architectures and Compilation Techniques (PACT'04)
Type of conference edition: Conference Year: 2004
Town/city: Antibes Country: França

Authors: Corbalan, J.; Duran, A.; Labarta, J.
Research groups: CAP - High Performance Computing Group
Title: Dynamic load balancing of MPI+OpenMP applications
Pages (first-last): 195-202 Type of publication: Full text
ISBN: Legal deposit no.:
URL to publication:
Conference edition: 33rd International Conference on Parallel Processing
Type of conference edition: Conference Year: 2004
Town/city: Montreal Country: Canadà


**A.4 Book chapters**

**Author/s of the chapter:** Etinski, M.; Corbalan, J.; Labarta, J.

**Research groups:** CAP - High Performance Computing Group

**Title of the chapter:** Power-aware parallel job scheduling

**Author/s of the book:**

**Title of the book:** Handbook of energy-aware and green computing

**Publisher:** Chapman & Hall/CRC Press

**ISBN:** 9781439850402

**Year:** 2012

**Pages (first-last):** 875-897

**Link to book chapter:**

**A.7 Other scientific and technical documents**

**Authors:** Utrera, G.; Corbalan, J.; Labarta, J.

**Research groups:** CAP - High Performance Computing Group

**Title:** Using Virtual Malleability in a job scheduling system to reduce waiting times

**Description:** In a typical production system submitted jobs are very different in terms of execution times and degree of parallelization. The design of an effective job scheduling system must deal with the maximization of the performance of the system in terms of throughput and response time. However, those jobs with short execution times are often penalized with endless waiting times that exceed by far their execution time and annoy their users. To measure the relation between execution and response time the slowdown metric (SLD) is used. In this work, we evaluate the usage of Virtual Malleability to reduce the wait time of jobs when executing workloads of HPC centers composed by rigid jobs. We have simulated a cluster of SMPs environment and evaluated a very simple job scheduling technique called FCFS-malleable which incorporates the facilities of Virtual Malleability. Results showed that a very significant improvement can be made over traditional backfilling especially for short jobs.

**Date:** 17/02/2011

**Number of pages:** 8

**Funding:**

**Link to document:** http://hpc.ac.upc.edu/doku/doku.php?id=search
Authors: Rodero, I.; Corbalan, J.
Research groups: CAP - High Performace Computing Group
Title: Design and Implementation of the eNANOS Scheduler
Description: In his technical report we address the problem of scheduling high performance parallel applications on clusters of SMPs architectures. In particular, we focus on the cluster scheduling scenario of the eNANOS architecture. We describe the main functionalities of the eNANOS Scheduler which is responsible for performing the job scheduling based on co-allocation techniques and the coordination with processor scheduling tools on top of the Loadleveler queueing system.
Keywords: Cluster Scheduling, Coordination, Loadleveler, eNANOS
Date: 08/2008
Number of pages: 10
Funding:
Link to document:

Authors: Guim, F.; Corbalan, J.; Labarta, J.
Research groups: CAP - High Performace Computing Group
Title: Performance Prediction of High Performance Applications using historic workloads information
Description: Performance prediction is an important research area that can be applied on scheduling and brokering topics. Schedulers can improve their decision having an approximate picture of which will be the behavior of applications that it's scheduling, for instance, knowing the amount of resources that they will use or knowing the amount of time that they will require to finish they computation.
Date: 07/2007
Number of pages: 10
Funding:
Link to document:

Authors: Guim, F.; Corbalan, J.
Research groups: CAP - High Performace Computing Group
Title: The Internals of the Alvio-Simulator: Simulator of HPC Infrastructures
Description: The simulator models the different components that interact in local and distributed architectures. Conceptually, its divided in three main parts: the simulator engine, the scheduling polices model and the computational resource model. As described in the Figure \ref{fig:simulator}, a simulation allows to simulate a given policy with a given architecture.
Date: 03/2007
Number of pages: 10
Funding:
Link to document:

Authors: Guim, F.; Corbalan, J.; Labarta, J.
Research groups: CAP - High Performace Computing Group
Title: Impact of Qualitative and Quantitative errors of the job runtime estimation in backfilling based scheduling policies
Description: Estimation or prediction accuracy in backfilling based policies its an important issue that has high impact on the system performance. However its not clear which is the required precision of such estimations, moreover its not clear which kind of errors are critical when scheduling the jobs that are queued in the local systems. In this paper we present a deeper analysis of the impact of the estimation errors in the scheduling
Date: 11/2006
Number of pages: 10
Funding:
Link to document:
Authors: Levillain, O.; Guim, F.; Corbalan, J.; Labarta, J.

Research groups: CAP - High Performance Computing Group

Description: Grids allow large scale resource-sharing across different administrative domains. Those diverse resources are likely to join or quit the grid at any moment, or possibly to break down. Thus grid monitoring is a complex task. The current usage of monitoring service is not very far from the usage of information service as they essentially track down breakdowns and give a more precise idea of the resource availability and load.

Date: 11/2006 Number of pages: 10

Funding:

Link to document:

Authors: Rodero, I.; Guim, F.; Corbalan, J.; Labarta, J.

Research groups: CAP - High Performance Computing Group

Description: This document shows some examples of JSDL documents with an extension for parallel jobs used at the Barcelona Supercomputing Center (BSC). These JSDL documents examples have been obtained from a web portal developed in the HPC-Europa JRA2 project framework. As a use case, it is also included a short description of the eNANOS execution environment and the LoadLeveler scripts obtained from the JSDL documents which are executed on an IBM SP2 cluster at BSC.

Date: 06/2006 Number of pages: 10

Funding:

Link to document:

Authors: Rodero, I.; Guim, F.; Corbalan, J.; Labarta, J.

Research groups: CAP - High Performance Computing Group

Description: This document specifies an extension of the JSDL to support the parallelism details of Grid jobs. This extension is proposed in general terms for supporting current multilevel parallel applications and incoming approaches in parallel programming models. The document includes the XML Schema for the JSDL extension, along with examples of JSDL documents based on this schema.

Date: 06/2006 Number of pages: 10

Funding:

Link to document:

Authors: Rodero, I.; Corbalan, J.; Badia, R.M.; Labarta, J.

Research groups: CAP - High Performance Computing Group

Description: Grid computing has been presented as a way to share geographically and organizationally distributed resources and to perform successfully distributed computation. For achieve this goals a software layer is necessary to interact with grid environments. Therefore, not only a middleware and its services are needed, it is necessary to offer resource management services to hide the underlying complexity of the Grid resources to Grid users.

Date: 12/2004 Number of pages: 15

Funding:

Link to document:
Authors: Utrera, G.; Corbalan, J.; Labarta, J.

Title: Study of MPI applications when sharing resources

Description: Abstract Scheduling parallel jobs has been an active investigation area. The scheduler has to deal with heterogeneous workloads and try to obtain throughputs and response times such that ensures good performance. We propose a Dynamic Space-Sharing Scheduling technique, based on the combination of the best benefits from Static Space Sharing and Coscheduling. A job is allocated a processors partition where its number of processes can be greater than the number of processors. As MPI [17] jobs aren't malleable, we make the job contend with itself for the use of processors applying Coscheduling. The goal of this paper is to evaluate and compare the impact of contending for resources among jobs and with the job itself.

Date: 10/2003
Number of pages: 20

Authors: Corbalan, J.; Labarta, J.; Martorell, X.

Title: Performance-Driven Processor Allocation

Description: In current multiprogrammed multiprocessor systems, it is critical to consider the performance of parallel applications to decide an efficient processor allocation. In this paper, we present the Performance-Driven Processor Allocation policy (PDPA). PDPA is a new scheduling policy that implements a processor allocation policy and a multiprogramming level policy, in a coordinated way. With respect to the processor allocation, PDPA is a dynamic policy that tries to allocate the maximum number of processors that reaches a target efficiency to running applications. With respect to the multiprogramming level, PDPA allows the execution of a new application when there are free processors and the allocation of all the running applications is stable (PDPA has allocated the maximum number of processors).

Date: 03/2003
Number of pages: 32

Authors: Corbalan, J.; Labarta, J.; Martorell, X.

Title: Dynamic Performance Analysis: SelfAnalyzer

Description: The speedup is the relationship between the sequential and the parallel execution times of an application. It is typically calculated by executing jobs several times with different number of processors and measuring it statically. However, the speedup depends on run-time parameters such as the input data, the number of processes migrations, the distance between processes and memory, or the interference with other running applications. In multiprocessors systems, the processor scheduler must be able to dynamically measure the performance achieved by running jobs to evaluate the quality of the processors distribution.

Date: 12/2002
Number of pages: 32

Authors: Corbalan, J.; Labarta, J.; Martorell, X.

Title: Evaluation of the Memory Page Migration Influence in the System Performance: The case of the SGI O2000

Description: Current shared-memory multiprocessor CC-NUMA architectures have the main characteristic that they provide a global address space to applications by hardware. However, the cost to access to memory depends on the distance between the node that accesses the data and the node that physically contains the data. There are a lot of works that evaluates the automatic memory migration mechanisms and conclude that they are not a valid approach to solve the problem of remote memory accesses.

Date: 12/2002
Number of pages: 5

Funding:

Link to document:
Authors: Corbalan, J.; Labarta, J.; Martorell, X.
Research groups : CAP - High Performance Computing Group
Title: Coordinated Scheduling and Dynamic Performance Analysis in Multiprocessor Systems
Description: N/A
Date: 06/2002 Number of pages: 250
Funding: 
Link to document: 

Authors: Corbalan, J.; Martorell, X.; Labarta, J.
Research groups : CAP - High Performance Computing Group
Title: Improving Gang Scheduling through Job performance Analysis and Malleability
Description: The OpenMP programming model provides parallel applications a very important feature: job malleability. Job malleability is the capacity of an application to dynamically adapt its parallelism to the number of processors allocated to it. We believe that job malleability provides to applications the flexibility that a system needs to achieve its maximum performance. We also defend that a system has to take its decisions not only based on user requirements but also based on run-time performance measurements to ensure the efficient use of resources. Job malleability is the application characteristic that makes possible the run-time performance analysis.
Date: 03/2001 Number of pages: 12
Funding: 
Link to document: 

Authors: Corbalan, J.; Labarta, J.
Research groups : CAP - High Performance Computing Group
Title: Improving Processor Allocation through Run-Time Measured
Description: In a multiprocessor architecture it is very important to allocate processors to applications in a proportional way to the performance that applications are achieving. Not considering this performance can result in an under-utilization of the multiprocessor, and also it can slowdown the execution time of parallel applications. However, the performance of parallel applications is not known before their execution.
Date: 10/2000 Number of pages: 14
Funding: 
Link to document: 

Authors: Freitag, F.; Corbalan, J.; Labarta, J.
Research groups : CAP - High Performance Computing Group
Title: A Dynamic Periodicity Detector: Application to Speedup Computation
Description: We propose a dynamic periodicity detector (DPD) for the estimation of periodicities in data series obtained from the execution of applications. We analyze the algorithm used by the periodicity detector and its performance on a number of data streams. It is shown how the periodicity detector is used for segmentation and prediction of data streams. In an application case we describe how the periodicity detector is applied to the dynamic detection of iterations in parallel applications.
Date: 10/2000 Number of pages: 16
Funding: 
Link to document: 

Authors: Corbalan, J.; Martorell, X.; Labarta, J.
Research groups : CAP - High Performance Computing Group
Title: Performance-Driven Processor Allocation
Description: This work is focused on processor allocation in shared-memory multiprocessor systems, where no knowledge of the application is available when applications are submitted. We perform the processor allocation taking into account the characteristics of the application measured at run-time. We want to demonstrate the importance of an accurate performance analysis and the criteria used to distribute the processors. With this aim, we present the SelfAnalyzer, an approach to dynamically analyze the performance of applications (speedup and execution time), and the Performance-Driven Processor Allocation (PDPA), a new scheduling policy which distributes processors considering both the global conditions of the system and the particular characteristics of running applications.
Date: 04/2000 Number of pages: 14
Funding: 
Link to document: 

Corbalan Gonzalez, Julita, 43514650F
**Authors:** Corbalan, J.; Martorell, X.; Labarta, J.

**Research groups:** CAP - High Performance Computing Group

**Title:** A Processor Scheduler: The CpuManager

**Description:** In an multiprocessor environment, with applications running concurrently, the Operating System is responsible for optimizing the system utilization. The scheduler distributes processors among applications according to a scheduling policy. The system utilization depends on several factors such as the number of processors assigned to an application, the placement of these processors or the amount of time that the processors are assigned to an application. Since the processor scheduler is normally integrated with the Operating System, users can not control the scheduling of their applications. In this work we present the structure of a user-level processor a scheduler implemented on top of IRIX6.5, to which, we will refer as CpuManager.

**Date:** 12/1999  
**Number of pages:** 20  
**Funding:**

**Link to document:**

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**Authors:** Corbalan, J.; Labarta, J.

**Research groups:** CAP - High Performance Computing Group

**Title:** Dynamic Speedup Calculation through Self-Analysis

**Description:** In an multiprocessor environment, with applications running concurrently, the scheduler is responsible for optimizing the system utilization. It distributes processors among applications according to a scheduling policy. Some policies allocate processors taking into account information such as the expected speedup. This information is usually provided by the users to the scheduler as an a priori input, and it is obtained by running the applications several times with different input sets. However, the large number of executions needed to obtain an accurate information constitute the major drawback of this approach, since they may consume a lot of time. A recent work has suggested that the efficiency of the applications can be dynamically estimated.

**Date:** 09/1999  
**Number of pages:** 11  
**Funding:**

**Link to document:**

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**Authors:** Ayguade, E.; Calidonna, C.; Corbalan, J.; Giordano, M.; Gonzalez, M.; Labarta, J.; Furnari, M.; Martorell, X.; Navarro, N.; Polychronopou, N.

**Research groups:** CAP - High Performace Computing Group

**Title:** The NANOS Environment User Guide

**Description:** This report contains the user manual for the NANOS software distribution. It describes the NthLib, the NanosCompiler, the instrumentation environment and SCPUS. Examples are provided along the document in a tutorial way.

**Date:** 09/1999  
**Number of pages:** 96  
**Funding:**

**Link to document:**

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**Authors:** Ayguade, E.; Calidonna, C.; Corbalan, J.; Giordano, M.; Gonzalez, M.; Hoppe, H.; Labarta, J.; Martorell, X.; Navarro, N.; Nikolopoulos, D.; Oliver, J.; Papatheodorou, T.; Polychronopou, E.

**Research groups:** CAP - High Performance Computing Group

**Title:** NANOS: Effective Integration of Fine-grain Parallelism Exploitation and Multiprogramming

**Description:** The objective of the NANOS project is to investigate possible ways to accomplish both high system throughput and application performance for parallel applications in multiprogrammed environments on shared-memory multiprocessors. The target of the project has been the development of a complete environment in which interactions between mechanisms and policies at different levels (application, compiler, threads library and kernel) are carefully coordinated, in order to achieve the aforementioned goals. The environment integrates techniques proposed in different research frameworks, enabling the exploitation of their combined potential and the development of new algorithms and ideas.

**Date:** 09/1999  
**Number of pages:** 11  
**Funding:**

**Link to document:**
**Authors:** Martorell, X.; Ayguade, E.; Navarro, N.; Corbalan, J.; Gonzalez, M.; Labarta, J.

**Research groups:** CAP - High Performance Computing Group

**Title:** Thread Fork/Join Techniques for Multi-level Parallelism Exploitation in NUMA Multiprocessors

**Description:** This paper presents some techniques for efficient thread forking and joining in parallel execution environments, taking into consideration the physical structure of NUMA machines and the support for multi-level parallelization and processor grouping. Two work generation schemes and one join mechanism are designed, implemented, evaluated and compared with the ones used in the IRIX MP library, an efficient implementation which supports a single level of parallelism.

**Date:** 09/1999  
**Number of pages:** 8  
**Funding:**

**Authors:** Ayguade, E.; Corbalan, J.; Cortes, T.; Furnari, M.; Giordano, M.; Hoppe, H.; Labarta, J.; Martorell, X.; Napolitano, R.; Navarro, N.

**Research groups:** CAP - High Performance Computing Group

**Title:** Manual Parallelization of Applications using the NANOS Programming Model

**Description:** In this report we describe the experiences in manually parallelizing some Fortran applications using the directives proposed in the NANOS programming model. In particular, we describe the use of the NANOS compiler and the tools for performance analysis and visualization for some of the benchmarks proposed in the project. It corresponds to the M2.D5 deliverable of the ESPRIT Long Term Research project NANOS, issued April 1998.

**Date:** 09/1998  
**Number of pages:** 14  
**Funding:**

**Authors:** Ayguade, E.; Corbalan, J.; Cortes, A.; Furnari, M.; Giordano, M.; Hoppe, H.; Labarta, J.; Martorell, X.; Napolitano, R.; Navarro, N.

**Research groups:** CAP - High Performance Computing Group

**Title:** Environment and Benchmark Selection for the NANOS project

**Description:** This report contains a description of the performance evaluation environment, criteria for benchmark selection and description of the benchmarks used in the NANOS project. This report corresponds to the M1.D2 deliverable of the ESPRIT Long Term Research project NANOS, issued december 1997.

**Date:** 09/1998  
**Number of pages:** 17  
**Funding:**

**Authors:** Becerra, Y.; Arliaga, E.; Serra, A.; Corbalan, J.; Gil, Marisa; Martorell, X.; Navarro, N.

**Research groups:** CAP - High Performance Computing Group

**Title:** Influencia de la gestión de la memoria en la eficiencia de las aplicaciones paralelas

**Description:** En este trabajo presentamos el estudio que estamos haciendo para caracterizar el comportamiento en cuanto a memoria de las aplicaciones paralelas, cuando se ejecutan sobre multiprocesadores de memoria compartida.

**Date:** 12/1996  
**Number of pages:** 21  
**Funding:**

**Authors:** Becerra, Y.; Arliaga, E.; Serra, A.; Corbalan, J.; Gil, Marisa; Martorell, X.; Navarro, N.

**Research groups:** CAP - High Performance Computing Group

**Title:** Soporte del entorno operativo a la gestión de la memoria para la ejecución de aplicaciones paralelas

**Description:** En este trabajo presentamos los estudios que estamos realizando sobre la ejecución de aplicaciones paralelas en multiprocesadores de memoria compartida.

**Date:** 07/1996  
**Number of pages:** 15  
**Funding:**

Corbalan Gonzalez, Julita, 43514650F
A.9 Theses

**Authors:** Corbalan, J.

**Research groups:** CAP - High Performance Computing Group

**Title:** Coordinated Scheduling and Dynamic Performance Analysis in Multiprocessors Systems

**Type:** Doctoral thesis  
**Date of oral defence:** 05/07/2002  
**Mark:** Excellent Cum Laude

**European doctor (thesis):**

**Supervisor/s:** Labarta, J.; Martorell, X.

**Name of institution:** Universitat Politècnica de Catalunya

**Supervisory body (UPC):** Department of Computer Architecture

**Link to thesis:**

A.10 Teaching materials or lecture notes

**Authors:** Becerra, Y.; Corbalan, J.; Costa, J.; Garcia, J.; Gil, Marisa; Guitart, J.; Millan, A.; Reig, G.

**Research groups:** CAP - High Performance Computing Group

**Title:** Documentación del Proyecto 2 de ProSO (2011-2012)

**Type:** Laboratory practicals  
**Date:** 09/2011  
**No. of pages:**

**Link to teaching materials or lecture notes:** [http://docencia.ac.upc.edu/FIB/PROSO/PROSO-P2-2011-2012.pdf](http://docencia.ac.upc.edu/FIB/PROSO/PROSO-P2-2011-2012.pdf)

**Authors:** Becerra, Y.; Corbalan, J.; Costa, J.; Garcia, J.; Gil, Marisa; Guitart, J.; Reig, G.; Millan, A.

**Research groups:** CAP - High Performance Computing Group

**Title:** Documentación del Proyecto 1 de ProSO (2011-2012)

**Type:** Laboratory practicals  
**Date:** 09/2011  
**No. of pages:**

**Link to teaching materials or lecture notes:** [http://docencia.ac.upc.edu/FIB/PROSO/PROSO-P1-2011-2012.pdf](http://docencia.ac.upc.edu/FIB/PROSO/PROSO-P1-2011-2012.pdf)

**Authors:** Becerra, Y.; Corbalan, J.; Costa, J.; Garcia, J.; Gil, Marisa; Guitart, J.; Reig, G.; Millan, A.

**Research groups:** CAP - High Performance Computing Group

**Title:** Documentación del Proyecto 2 de ProSO (2010-2011)

**Type:** Laboratory practicals  
**Date:** 09/2010  
**No. of pages:**

**Link to teaching materials or lecture notes:** [http://docencia.ac.upc.edu/FIB/PROSO/PROSO-P2-2010-2011.pdf](http://docencia.ac.upc.edu/FIB/PROSO/PROSO-P2-2010-2011.pdf)

**Authors:** Becerra, Y.; Corbalan, J.; Costa, J.; Garcia, J.; Gil, Marisa; Guitart, J.; Reig, G.; Millan, A.

**Research groups:** CAP - High Performance Computing Group

**Title:** Documentación del Proyecto 1 de ProSO (2010-2011)

**Type:** Laboratory practicals  
**Date:** 09/2010  
**No. of pages:**

**Link to teaching materials or lecture notes:** [http://docencia.ac.upc.edu/FIB/PROSO/PROSO-P1-2010-2011.pdf](http://docencia.ac.upc.edu/FIB/PROSO/PROSO-P1-2010-2011.pdf)

**Authors:** Becerra, Y.; Corbalan, J.; Costa, J.; Gil, Marisa; Guitart, J.; González, R.; Reig, G.

**Research groups:** CAP - High Performance Computing Group

**Title:** Documentación del Proyecto 2 de ProSO (2009-2010)

**Type:** Laboratory practicals  
**Date:** 09/2009  
**No. of pages:**

**Link to teaching materials or lecture notes:** [http://docencia.ac.upc.edu/FIB/PROSO/PROSO-P2-2009-2010.pdf](http://docencia.ac.upc.edu/FIB/PROSO/PROSO-P2-2009-2010.pdf)

**Authors:** Becerra, Y.; Corbalan, J.; Costa, J.; Gil, Marisa; Guitart, J.; González, R.

**Research groups:** CAP - High Performance Computing Group

**Title:** Documentación del Proyecto 1 de ProSO (2009-2010)

**Type:** Laboratory practicals  
**Date:** 09/2009  
**No. of pages:**

**Link to teaching materials or lecture notes:** [http://docencia.ac.upc.edu/FIB/PROSO/PROSO-P1-2009-2010.pdf](http://docencia.ac.upc.edu/FIB/PROSO/PROSO-P1-2009-2010.pdf)
<table>
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<th>Authors</th>
<th>Title</th>
<th>Research groups</th>
<th>Type</th>
<th>Link to teaching materials or lecture notes</th>
<th>Date</th>
<th>No. of pages</th>
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</thead>
</table>
### Authors:
García, J.; Corbalán, J.; Gil, Marisa; Guitart, J.; Costa, J.

**Research groups**: CAP - High Performance Computing Group

**Title**: Documentación del Proyecto 2 de ProSO (2004-2005)

**Type**: Laboratory practicals  
**Date**: 09/2004  
**No. of pages**: 25


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Authors: García, J.; Corbalán, J.; Gil, Marisa; Guitart, J.; Costa, J.

**Research groups**: CAP - High Performance Computing Group

**Title**: Documentación del Proyecto 1 de ProSO (2004-2005)

**Type**: Laboratory practicals  
**Date**: 09/2004  
**No. of pages**: 54


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**Research groups**: CAP - High Performance Computing Group

**Title**: EXEMPLES DE CRIDES A UNIX. INTRODUCCIO ALS SISTEMES OPERATIUS

**Type**: Notes  
**Date**: 09/1995  
**No. of pages**:

**Link to teaching materials or lecture notes**:

---

Authors: Girona, S.; Gil, Marisa; Herrero, J.; Morancho, E.; Navarro, N.; Toribio, A.; Corbalán, J.; RUBIA, M.; TORRENTS, S.

**Research groups**: CAP - High Performance Computing Group

**Title**: GUIA RAPIDA DE LLENGUATGE 'C'. INTRODUCCIO ALS SISTEMES OPERATIUS

**Type**: Notes  
**Date**: 09/1995  
**No. of pages**:

**Link to teaching materials or lecture notes**:

---

Authors: Girona, S.; Herrero, J.; Morancho, E.; Navarro, N.; Toribio, A.; Corbalán, J.

**Research groups**: CAP - High Performance Computing Group

**Title**: Exemples de crides a Unix. Introduccio als sistemes operatius

**Type**: Notes  
**Date**: 09/1994  
**No. of pages**:

**Link to teaching materials or lecture notes**:

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### B. Conferences, courses and other events

#### B.1 Presentation of conference papers

Authors: Corbalán, J.

**Research groups**: CAP - High Performance Computing Group

**Title of paper**: An Adaptive Cut-off-for task Parallelism

**Type of participation**: Lecture  
**Date of presentation**: 15/11/2008

**Conference edition**: SC08

**Type of conference edition**: Conference  
**Year**: 2008

**Town/city**: Austin  
**Country**: Estats Units d'Amèrica

**Published**:  
**Link to presentation**: 
Authors: Corbalan, J.
Research groups: CAP - High Performance Computing Group
Title of paper: Balancing HPC Applications Through Smart Allocation of Resources in MT Processors
Type of participation: Lecture
Date of presentation: 14/04/2008
Conference edition: 22nd IEEE International Parallel and Distributed Processing Symposium
Type of conference edition: Conference
Year: 2008
Town/city: Miami, Florida
Country: Estats Units d'Amèrica
Published:
Link to presentation:

Authors: Corbalan, J.
Research groups: CAP - High Performance Computing Group
Title of paper: The Palantir grid meta-information system
Type of participation: Poster presentation
Date of presentation: 28/09/2006
Type of conference edition: Conference
Year: 2006
Town/city: Barcelona
Country: Espanya
Published:
Link to presentation:

Authors: Corbalan, J.
Research groups: CAP - High Performance Computing Group
Title of paper: Extension of the JSDL for Parallel Jobs
Type of participation: Lecture
Date of presentation: 18/09/2006
Conference edition: XVII Jornadas de Paralelismo
Type of conference edition: Working session
Year: 2006
Town/city: Albacete
Country: Espanya
Published:
Link to presentation:

Authors: Corbalan, J.
Research groups: CAP - High Performance Computing Group
Title of paper: Uniform Job Monitoring using the HPC-Europa Single Point of Access
Type of participation: Lecture
Date of presentation: 16/05/2006
Conference edition: International Workshop on Grid Testbeds in conjunction with CCGrid'2006
Type of conference edition: ALT
Year: 2006
Town/city: Singapore
Country: Japan
Published:
Link to presentation:

Authors: Corbalan, J.
Research groups: CAP - High Performance Computing Group
Title of paper: How the JSDL can Exploit the Parallelism
Type of participation: Lecture
Date of presentation: 16/05/2006
Conference edition: Sixth IEEE International Symposium on Cluster Computing and the Grid CCGrid'06
Type of conference edition: Conference
Year: 2006
Town/city: Singapur
Country: Singapore
Published:
Link to presentation:
Authors: Corbalan, J.
Research groups: CAP - High Performance Computing Group
Title of paper: Automatic Thread Distribution For Nested Parallelism in OpenMP
Type of participation: Lecture
Date of presentation: 20/06/2005
Type of conference edition: Conference
Year: 2005
Town/city: Massachusetts
Country: Estats Units d'Amèrica
Published:
Link to presentation:

Authors: Corbalan, J.
Research groups: CAP - High Performance Computing Group
Title of paper: Implementing malleability on MPI Jobs
Type of participation: Lecture
Date of presentation: 29/09/2004
Conference edition: 13th International Conference on Parallel Architectures and Compilation Techniques (PACT'04)
Type of conference edition: Conference
Year: 2004
Town/city: Antibes
Country: França
Published:
Link to presentation:

Authors: Corbalan, J.
Research groups: CAP - High Performance Computing Group
Title of paper: Dynamic load balancing of MPI+OpenMP applications
Type of participation: Lecture
Date of presentation: 15/08/2004
Conference edition: 33rd International Conference on Parallel Processing
Type of conference edition: Conference
Year: 2004
Town/city: Montreal
Country: Canadà
Published:
Link to presentation:

Authors: Corbalan, J.
Research groups: CAP - High Performance Computing Group
Title of paper: Runtime adjustment of parallel nested loops
Type of participation: Lecture
Date of presentation: 17/05/2004
Conference edition: Workshop on OpenMP Applications and Tools
Type of conference edition: Conference
Year: 2004
Town/city: Houston, Texas
Country: Estats Units d'Amèrica
Published:
Link to presentation:

Authors: Corbalan, J.
Research groups: CAP - High Performance Computing Group
Title of paper: Evaluation of the Memory Page Migration Influence in the System Performance: The Case of the SGI O2000
Type of participation: Lecture
Date of presentation: 23/06/2003
Type of conference edition: Conference
Year: 2003
Town/city: California
Country: Estats Units d'Amèrica
Published:
Link to presentation:
B.4 Organisation of conferences

Name of conference: 2006 IEEE International Conference on Cluster Computing (CLUSTER'06)
Type of edition: Conference
Year of edition: 2006
Type of participation: Altres
Town/city: Barcelona
Country: Espanya

C. Projects and intellectual and industrial property

C.1 Participation in R&D calls

Type of participation: Researcher
Research groups : CAP - High Performace Computing Group
Code of funding body : 2009 SGR 980
Title: MPEXPAR: MODELS DE PROGRAMACIO I ENTORNS D'EXECUCIO PARAL·LELS
Start date: 30/09/2009  End date: 31/12/2013  Duration: 4 Year/s 3 Month/s 2 Day/s
Funding: 81120.00 €  Scope: Regional  Participants: 1
Institution in which the research was undertaken: Department of Computer Architecture
Funding bodies: AGAUR. Agència de Gestió d'Ajuts Universitaris i de Recerca
Participating institutions:
Head researcher: Ayguade, E.

C.3 Participation in teaching innovation projects

Type of participation: Collaborator
Research groups : LARCA - Laboratory of Relational Algorithmics, Complexity and Learnability; LOGPROG - Logic and Programming; GESSI - Software Engineering for Information Systems research group; CAP - High Performance Computing Group; ALBCOM - Algorithms, Computational Biology, Complexity and Formal Methods; GPLN - Natural Language Processing Group; SOCO - Soft Computing
Code of funding body : 
Title: Disseny i implantació de les assignatures de programació als nous Graus d'Enginyeria Informàtica
Start date: 01/09/2010  End date: 31/12/2011  Duration: 1 Year/s 3 Month/s 30 Day/s
Funding: 6000.00 €  Scope:  Participants: 13
Type: Teaching innovation project  Town/city:  Country: 
Funding bodies: UPC
Participating institutions:

E. Contributions to publications and theses

E.4 Supervision or tutoring of theses and membership of assessment panels

Type of contribution: Vocal  Work type: PROJECTE DE FI DE CARRERA
Research groups : CAP - High Performace Computing Group; ALBCOM - Algorithms, Computational Biology, Complexity and Formal Methods
Title: Estudi d'una aplicació per processament dels logs de Campus Virtual
Date of oral defence: 25/01/2013
Authors: Ruiz Lara, Juan Jose
Institution: Universitat Politècnica de Catalunya
Link to document:
Type of contribution: President

Research groups: CAP - High Performance Computing Group

Title: Escalabilidad de Sistemas de Almacenamiento Extensibles y Heterogéneos

Date of oral defence: 11/07/2012

Authors: Miranda, A.

Institution: Universitat Politècnica de Catalunya

Link to document:

Type of contribution: President

Research groups: CAP - High Performance Computing Group

Title: Techniques for Improving the Performance of Software Transactional Memory

Date of oral defence: 11/07/2012

Authors: Stipic, Srdan

Institution: Universitat Politècnica de Catalunya

Link to document:

Type of contribution: President

Research groups: CAP - High Performance Computing Group

Title: Memory System for Exaflop Computing Systems

Date of oral defence: 11/07/2012

Authors: Pavlovic, Milan

Institution: Universitat Politècnica de Catalunya

Link to document:

Type of contribution: President

Research groups: CAP - High Performance Computing Group

Title: Parallel Fluid-Particle Solver

Date of oral defence: 11/07/2012

Authors: Samaniego Alvarado, Cristóbal

Institution: Universitat Politècnica de Catalunya

Link to document:

Type of contribution: President

Research groups: CAP - High Performance Computing Group

Title: Compilation Techniques to Exploit SIMD and Parallelism

Date of oral defence: 11/07/2012

Authors: Berna, A.

Institution: Universitat Politècnica de Catalunya

Link to document:

Type of contribution: President

Research groups: CAP - High Performance Computing Group

Title: Atomic Dataflow Model

Date of oral defence: 11/07/2012

Authors: Gajinov, Vladimir

Institution: Universitat Politècnica de Catalunya

Link to document:
Type of contribution: Vocal  Work type: PROJECTE DE FI DE CARRERA
Research groups : CAP - High Performance Computing Group; GREDIC - Research group about Innovation and Knowledge Economy

Title: Disseny d'un sistema gestor de continguts (CMS) per a una publicació periòdica
Date of oral defence: 19/06/2012
Authors: Agustí Garcia, Albert
Institution: Universitat Politècnica de Catalunya

Link to document:

Type of contribution: Supervisor  Work type: Tesi doctoral
Research groups : CAP - High Performance Computing Group

Title: DVFS Power Management in HPC Systems
Date of oral defence: 01/06/2012
Authors: Etinski, Maja
Institution: Universitat Politècnica de Catalunya

Link to document:

Type of contribution: Vocal  Work type: PROPOSTA DE TESI
Research groups : CAP - High Performance Computing Group; ICARUS - Intelligent Communications and Avionics for Robust Unmanned (Aerial) Systems

Title: Performance and Power Optimizations in Chip Multiprocessors for Throughput-Aware Computation
Date of oral defence: 03/02/2012
Authors: Vega, Augusto Javier
Institution: Universitat Politècnica de Catalunya

Link to document:

Type of contribution: Vocal  Work type: PROPOSTA DE TESI
Research groups : CAP - High Performance Computing Group; ICARUS - Intelligent Communications and Avionics for Robust Unmanned (Aerial) Systems

Title: Techniques for Improving Concurrency in Hardware Transactional Memory
Date of oral defence: 03/02/2012
Authors: Armejach Sanosa, Adrià
Institution: Universitat Politècnica de Catalunya

Link to document:

Type of contribution: Vocal  Work type: PROPOSTA DE TESI
Research groups : CAP - High Performance Computing Group; ICARUS - Intelligent Communications and Avionics for Robust Unmanned (Aerial) Systems

Title: Runtime Support for Multi-level Disjoint Address Spaces
Date of oral defence: 03/02/2012
Authors: Bueno Hedo, Javier
Institution: Universitat Politècnica de Catalunya

Link to document:

Type of contribution: Vocal  Work type: PROPOSTA DE TESI
Research groups : CAP - High Performance Computing Group; ICARUS - Intelligent Communications and Avionics for Robust Unmanned (Aerial) Systems; ARCO - Microarchitecture and Compilers

Title: Energy Efficient Mobile GPU Systems
Date of oral defence: 03/02/2012
Authors: Arnau, J.
Institution: Universitat Politècnica de Catalunya

Link to document:
Type of contribution: Vocal  
Work type: PROJECTE DE FI DE CARRERA

Research groups : CAP - High Performance Computing Group; MPI - Information Modelling and Processing

Title: Sistema Gestión de Compras de Desigual

Date of oral defence: 26/01/2012

Authors: Bresme Gonzalez, Raul

Institution: Universitat Politècnica de Catalunya

Link to document:

Type of contribution: Secretari  
Work type: Tesi doctoral

Research groups : CAP - High Performance Computing Group

Title: Hardware and software support for distributed shared memory in chip multiprocessors

Date of oral defence: 09/01/2012

Authors: Villavieja, C.

Institution: Universitat Politècnica de Catalunya

Link to document:

Type of contribution: Vocal  
Work type: PROJECTE DE FI DE CARRERA

Research groups : CAP - High Performance Computing Group

Title: Transmisión de un ECG a través de internet mediante protocolos estándares SIP, SDP y RTP

Date of oral defence: 01/07/2011

Authors: Fuentes Escrig, Joaquín

Institution: Universitat Politècnica de Catalunya

Link to document:

Type of contribution: President  
Work type: PROJECTE DE FI DE CARRERA

Research groups : CAP - High Performance Computing Group; KEMLG - Knowledge Engineering and Machine Learning Group

Title: Caracterización de aplicaciones en nuevas arquitecturas

Date of oral defence: 01/07/2011

Authors: Juanpere Cañameras, Edgar

Institution: Universitat Politècnica de Catalunya

Link to document:

Type of contribution: Examination panel member  
Work type: Tesi doctoral

Research groups : CAP - High Performance Computing Group

Title: Multifaceted Resource Management on Virtualized Providers

Date of oral defence: 14/06/2011

Authors: Goiri, I.

Institution: Universitat Politècnica de Catalunya

Link to document:

Type of contribution: Supervisor  
Work type: Tesi doctoral

Research groups : CAP - High Performance Computing Group

Title: Coordinated Scheduling and Resource Management for Heterogeneous Clusters and Grid Systems.

Date of oral defence: 05/02/2009

Authors: Rodero, I.

Institution: Universitat Politècnica de Catalunya

Link to document:
Type of contribution: Supervisor  Work type: Tesi doctoral
Research groups : CAP - High Performace Computing Group
Title: Self-tuned parallel runtimes: a case of study for OpenMP
Date of oral defence: 22/10/2008
Authors: Duran, A.
Institution: Universitat Politècnica de Catalunya
Link to document:

Type of contribution: Tutor  Work type: Tesi doctoral
Research groups : CAP - High Performace Computing Group
Title: Job-Guided Scheduling Strategies for Multi-Site HPC Infrastructures
Date of oral defence: 30/05/2008
Authors: Guim, F.
Institution: Universitat Politècnica de Catalunya
Link to document:

Type of contribution: Supervisor  Work type: Tesi doctoral
Research groups : CAP - High Performace Computing Group
Title: Job-Guided Scheduling Strategies for Multi-Site HPC Infrastructures
Date of oral defence: 30/05/2008
Authors: Guim, F.
Institution: Universitat Politècnica de Catalunya
Link to document:

Type of contribution: Supervisor  Work type: Tesi doctoral
Research groups : CAP - High Performace Computing Group
Title: “Virtual Malleability” applied to MPI jobs to improve their execution in a multiprogrammed environment
Date of oral defence: 10/12/2007
Authors: Utrera, G.
Institution: Departament d’Arquitectura de Computadors
Link to document:

H. Actividades de docencia

H.1 Subject taught

Code course: 28026  Course: OPERATING SYSTEMS PROJECT
Credits course: 7.5
Hours laboratory/directed activities/theory/practice: - / 75.0 / - / -
Academic year: 2006  Semester: Primer  Course/level:
Body: Universitat Politècnica de Catalunya
School: UPC
Cycle: Primer i segon
Type course: Altres  Type program: Enginyeria

Code course: 28026  Course: OPERATING SYSTEMS PROJECT
Credits course: 7.5
Hours laboratory/directed activities/theory/practice: - / 60.0 / - / -
Academic year: 2006  Semester: Segon  Course/level:
Body: Universitat Politècnica de Catalunya
School: UPC
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