PRACE Summer of HPC 2015

Programme

Day 1 – Monday 29th June, 2015

11.00h-12.00h	**Welcome coffee at registration desk**	Chapel's foyer
12.00h - 13.00h	**Arrival and gathering** Conveners: Dr. Nia Alexandrov (BSC-CNS, Barcelona, Spain), Dr. Leon Kos (University of Ljubljana) *Training week Coordinator to assist arriving students with accommodation and/or questions and queries about the local site and training.*	Sala Gran
13.00h - 14.00h	Lunch (wear your badge)	FIB's bar
14.00h - 14.15h	**Welcome** by Dr. Maria Ribera Sancho (BSC)	Sala Gran
14.15h - 15.30h	**Introduction to SoHPC, PRACE & Social media (Part I)** Conveners: Dr. Leon Kos (University of Ljubljana), Emma Hogan (ICHEC) *Questions and queries about the local site, projects at sites, and training in social media.*	Sala Gran
15.30h - 16.00h	Coffee break (wear your badge)	Chapel's foyer
16.00h - 18.00h	**Introduction to SoHPC, PRACE & Social media (Part II)** Conveners: Dr. Leon Kos (University of Ljubljana), Emma Hogan (ICHEC) *Questions and queries about the local site, projects at sites, and training in social media.*	Sala Gran
19.00h - 20.00h	Dinner (wear your badge)	FIB's bar

Day 2 – Tuesday 30th June, 2015

08.30h - 09.00h	Breakfast (wear your badge)	Chapel's foyer
09.00h – 09.30h	**Visit to the MareNostrum Supercomputer**	Chapel's foyer
09.30h – 13.00h	**Introduction to HPC and MPI**	
09.30h - 10.30h	**Introduction to parallel architectures, algorithms design and performance parameters** Speaker: Dr. Vassil Alexandrov (BSC)	Sala Gran
10.30h - 11.00h	**Introduction to the MPI programming model** Speaker: Dr. Janko Strassburg (BSC)	Sala Gran
11.00h - 11.30h	Break (wear your badge)	Chapel's foyer
11.30h - 13.00h	**Practical: How to compile and run MPI applications** Speaker: Dr. Janko Strassburg (BSC)	Sala Gran
13.00h - 14.00h	Lunch (wear your badge)	FIB's bar
14.00h - 17.30h	**Performance Analysis and Prediction** Convener: Dr. Xavier Martorell	

14.00h - 14.30h	**Introduction to Paraver: tool to analyze and understand performance** Speaker: Dr. Vladimir Subotic (BSC)	Sala Gran
14.30h - 15.30h	**Practical: Trace generation and trace analysis** Speaker: Dr. Vladimir Subotic (BSC)	Sala Gran
15.30h - 16.00h	Coffee break (wear your badge)	Chapel's foyer
16.00h - 17.30h	**Tareador: understanding and predicting the potential of task decomposition strategies** Speaker: Dr. Vladimir Subotic (BSC)	Sala Gran
19.00h - 20.00h	Dinner (wear your badge)	FIB's bar

Day 3 – Wednesday 1st July, 2015

09.00h - 09.30h	Breakfast (wear your badge)	Chapel's foyer
09.30h – 13.00h	**Parallel Programming with MPI** Convener: Dr. Xavier Martorell	
09.30h - 10.30h	**MPI: Point-to-point communication, collective communication** Speaker: Dr. Vladimir Subotic (BSC)	Sala Gran
10.30h - 11.00h	**MPI: Blocking and non-blocking communications** Speaker: Dr. Vladimir Subotic (BSC)	Sala Gran
11.00h - 11.30h	Break (wear your badge)	Chapel's foyer
11.30h - 13.00h	**Practical: Simple matrix computations in MPI** Speaker: Dr. Vladimir Subotic (BSC)	Sala Gran
13.00h - 14.00h	Lunch (wear your badge)	FIB's bar
14.00h - 17.30h	**Shared-Memory Programming with OpenMP** Convener: Dr. Xavier Martorell	
14.00h - 14.30h	**OpenMP: shared-memory programming models, fundamentals** Speaker: Dr. Xavier Martorell (BSC)	Sala Gran
14.30h - 15.00h	**OpenMP: Parallel regions and work sharing constructs** Speaker: Dr. Xavier Martorell (BSC)	Sala Gran
15.00h - 15.30h	**OpenMP: Synchronization mechanisms** Speaker: Dr. Xavier Martorell (BSC)	Sala Gran
15.30h - 16.00h	Coffee break (wear your badge)	Chapel's foyer
16.00h - 17.30h	**Practical: Jacobi solver in heat diffusion in OpenMP** Speakers: Dr. Xavier Martorell (BSC), Mr. Guillermo Miranda (BSC), Mr. Xavier Teruel (BSC), Mr. Diego Nieto (BSC), Dr. Janko Strassburg (BSC)	Sala Gran
17.30h - 19.00h	**Group Picture** **and Picnic on the beach** (wear your SoHPC t-shirt!)	Chapel's foyer

Day 4 – Thursday 2nd July, 2015

09.00h - 09.30h	Breakfast (wear your badge)	Chapel's foyer
09.30h – 13.00h	**Shared-Memory Programming with OpenMP: continued** Convener: Dr. Xavier Martorell	
09.30h - 10.00h	**Shared-Memory Programming with OpenMP** Speaker: Mr. Xavier Teruel (BSC)	Sala Gran

10.00h - 10.30h	**OpenMP/OmpSs: task dependencies** Speaker: Mr. Guillermo Miranda (BSC)	Sala Gran
10.30h - 11.00h	**Practical: divide-and-conquer with Multisort in OpenMP (Part I)** Speaker: Mr. Diego Nieto (BSC)	Sala Gran
11.00h - 11.30h	Break (wear your badge)	Chapel's foyer
11.30h - 13.00h	**Practical: divide-and-conquer with Multisort in OpenMP (Part II)** Speaker: Mr. Diego Nieto (BSC)	Sala Gran
13.00h - 14.00h	Lunch (wear your badge)	FIB's bar
14.00h - 17.30h	**Hybrid Programming - MPI/OpenMP** Convener: Dr. Xavier Martorell	
14.00h - 15.30h	**Hybrid MPI/OpenMP: practical matrix computation code** Speakers: Mr. Xavier Teruel (BSC), Mr. Guillermo Miranda (BSC)	Sala Gran
15.30h - 16.00h	Coffee break (wear your badge)	Chapel's foyer
16.00h - 17.30h	**A look into accelerators: CUDA through some very simple examples** Speaker: Mr. Diego Nieto (BSC)	Sala Gran
19.00h - 20.00h	Dinner (wear your badge)	FIB's bar

Day 5 – Friday 3rd July, 2015

09.00h - 09.30h	Breakfast (wear your badge)	Chapel's foyer
09.30h – 17.30h	**Visualisation training** Convener: Dr. Xavier Martorell	
09.30h 11.00h	**Introduction to 3D Scientific Visualisation** Speaker: Dr. Leon Kos (University of Ljubljana)	Sala Gran
11.00h - 11.30h	Break (wear your badge)	Chapel's foyer
12.00h 13.00h	**VisIt overview** Speaker: Dr. Leon Kos (University of Ljubljana)	Sala Gran
13.00h - 14.00h	Lunch (wear your badge)	FIB's bar
14.00h - 15.00h	**Open Foam and ParaView** Speaker: Dr. Marijo Telenta (UL)	Sala Gran
15.00h - 15.30h	Coffee break + picnic pack pick-up	Chapel's foyer
16.00h - 17.30h	**OpenGL programming** Speaker: Dr. Leon Kos (University of Ljubljana)	Sala Gran

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NOTICES

Help or queries:
Attendees can contact patc@bsc.es

WIFI Access:
1) Select the network "XSF-UPC"
2) Open the browser. You will be automatically redirected to the login site.
3) Then you have two options:
    3.1) For http and https access only, use the "Guest" button
    3.2) For full access, use the following account:
        User: xsf.convidat
        Password: Wh1pl4sh or 49T0m4t4

Security
For security reasons the classroom will be closed during the scheduled breaks.

Where are the diferent Meeting points?

Organisational Remarks

Breakfast at 9:00 in the Chapel's foyer. (Tuesday 8:30)
Coffee breaks will be in the Chapel's foyer.
Always bring your badge.

Lunch breaks will be in the FIB's bar.
Always bring your badge.

Diner will be in the FIB's bar (except on Wednesday and Friday)
Always bring your badge.

Tuesday 30th June, 2015. Visit to MareNostrum at 9.00h
Breakfast at 8:30. We meet al the Chapel's foyer.

Wednesday 1st July, 2015. Group photo and Picnic on the beach. Wear the SoHPC t-shirt that will be given to you during the morning!