



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) <i>Training week Coordinator to assist arriving students with accommodation and/or questions and queries about the local site and training.</i>	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) <i>Questions and queries about the local site, projects at sites, and training in social media.</i>	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) <i>Questions and queries about the local site, projects at sites, and training in social media.</i>	Sala Gran
19.00h - 20.00h	Dinner (wear your badge)	FIB's bar

Day 2 – Tuesday 30th June, 2015

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	Coffee 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

09.30h – 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	Coffee 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

09.30h – 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	Coffee 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

09.30h – 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	Coffee 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	Chapel's foyer
16.00h - 17.30h	OpenGL programming Speaker: Dr. Leon Kos (University of Ljubljana)	Sala Gran
19.00h - 20.00h	Dinner (wear your badge)	FIB's bar

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 different Meeting points?



Organisational Remarks



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)
Always bring your badge.



Tuesday 30th June, 2015. Visit to MareNostrum at 9.00h
We meet at 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!