

## 2nd IS-ENES Workshop on "High-performance computing for Climate Models"

Fondation Bemberg, Toulouse, France  
January 30<sup>th</sup> to February 1<sup>st</sup> 2013



### Agenda

**NB:** time for speakers includes 5 min for questions, except session 2 where discussion is at the end of session

#### Wednesday 30<sup>th</sup> January 2013

12:30 - 13:30 *Lunch and Registration*

#### 13:30 - 14:00 **Welcome session**

13:30 - 13:45	Welcome from the Workshop Organizers	Giovanni Aloisio (CMCC, IT) Jean Claude André (FR) Sophie Valcke (CERFACS, FR)
13:45 - 14:00	Workshop Introduction and opening remarks	Sylvie Joussaume (IPSL, FR)

#### 14:00 - 15:20 **Session 1 - Status of EU Exascale projects** *Chair: Reinhard Budich (MPI-M, DE)*

14:00 - 14:25	EESI (1 & 2) European Exascale Software Initiatives	Philippe Ricoux (Total, FR)
14:25 - 14:50	CRESTA, Collaborative Research into Exascale Systemware, Tools & Applications	George Mozdzynski (ECMWF)
14:50 - 15:15	DEEP, Dynamical Exascale Entry Platform	Estela Suarez (JSC, DE)
15:15 - 15:40	Mont-Blanc, European scalable and power efficient HPC platform based on low-power embedded technology	Paul Carpenter (BSC, SP)

15:40- 16:10 *Break*

#### 16:10 - 17:55 **Session 2 - European Earth System Models with a focus on computing performance** *Chair: Sylvie Joussaume (IPSL, FR)*

16:10-16:25	EC-Earth	Uwe Fladrich (SMHI, SE)
16:25-16:40	CNRM-CM5	Stéphane Sénési (MeteoFrance, FR)
16:40-16:55	MPI-ESM	Reinhard Budich (MPI-M, DE) Marco Giorgetta (MPI-M, DE)
16:55-17:10	UM-based ESM	Jean-Christophe Rioual (Hadley Centre, UK)
17:10-17:25	IPSL-CM5	Marie-Alice Foujols (IPSL, FR)
17:25-17:40	C-ESM	Tomas Lovato (CMCC)
17:40-17:55	NorESM	Mats Bentsen (Uni Research, NO)

#### 17:55 - 18:45 **General discussion on session 2** *Moderator: Sylvie Joussaume (IPSL, FR)*

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**Thursday 31<sup>th</sup> January 2013**

**09:00 - 12:00**      **Session 3 - International Earth System Models and dynamical cores**  
*Chair: Bryan Lawrence (NCAS, UK)*

09:00 - 09:25	CESM	John Dennis (NCAR, US)
09:25 - 09:50	MPAS, Model for Prediction Across Scales	Bill Skamarock (NCAR, US)
09:50 - 10:15	GFDL	V. Balaji (GFDL, US)
10:15 - 10:40	DYNAMICO	Thomas Dubos (IPSL, FR)
10:40 - 11:05	ICON	Günther Zängl (DWD, DE)
11:05 - 11:35	<i>Break</i>	
11:35 - 12:00	Status of Dynamical Core Model Intercomparison Project	Christiane Jablonowski (U. Michigan, US)

**12:00 - 12:45**      **General discussion on dynamical cores and computing performance**  
*Moderator: Bryan Lawrence (NCAS, UK)*

*12:45 - 14:00      Lunch*

**14:00 - 14:50**      **Session 4 - Report from Large Numerical Climate Experiments on PRACE platforms**  
*Chair: Jean-Claude Andre (Cerfacs, FR)*

14:00 - 14:25	UPSCALES: Joint Weather and Climate High-Resolution Global Modelling: Future Weathers and their Risks	Pier Luigi Vidale (NCAS, UK)
14:25 - 14:50	Pulsation: Peta scale mULTi-gridS ocean-ATmosphere coupled simulations	Sébastien Masson (LOCEAN/IPSL, FR)

**14:50 - 17:25**      **Session 5 – Development for Exascale and GPUs for climate models**  
*Chair: Giovanni Aloisio (CMCC, IT)*

14:50 - 15:15	ECS, Enabling Climate simulations at Extreme Scale	Marc Snir, ARNL
15:15 - 15:40	ICOMEX ICOSahedral-grid Models for EXascale Earth system simulations)	Günther Zängl (DWD, DE)
15:40 - 16:05	From ENDGame to GungHo	Nigel Wood, (MetOffice, UK)
16:05 - 16:35	<i>Break</i>	
16:35 - 17:00	Using GPUs for ICON	Will Sawyer (CSCS, CH)
17:00 - 17:25	Using GPUs for climate models, report on US initiatives	Mark Govett (NOAA, USA)

**17:25 - 18:30**      **General discussion on preparing climate models for future HPC architectures**  
*Moderator: Giovanni Aloisio (CMCC, IT)*

*20:00      Social Dinner*

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**Friday 1<sup>st</sup> February 2013**

09:00 - 11:05

**Session 6 - Environment for HPC**

*Chair: Joachim Biercamp (DKRZ, DE)*

09:00 - 09:25

Exarch Climate analytics on distributed EXascale Archives

Martin Juckes (BADC, UK)

09:25 - 09:50

JASMIN and data issues, status and perspectives

Bryan Lawrence (NCAS, UK)

09:50 - 10:15

PARVIS, Parallel visualisation

Rob Jacob (Argonne, US) (tbc)

10:15 - 10:40

I/O's, status and perspectives

Luis Kornblueh (MPI-M, De)

10:40 - 11:05

Couplers

Sophie Valcke (CERFACS, FR)

11:05 - 11:35

*Break*

11:35 - 12:45

**Session 7 – Long-term strategic issues**

*Chair: Antonio Navarra (CMCC, IT) (tbc)*

General discussion and identification of future agenda

12:45 - 13:00

**Session 8 – Closing**

*Chair: Sylvie Joussaume (IPSL, FR)*

13:00 - 14:00

*Lunch*