Note from the Chairs

Dear Readers,

We are very excited to present the first newsletter of the cHiPSet COST Action (IC1406), which summarizes our activities in the first Grant Period. The newsletter will provide you with information about the progress, recent achievements, and important forthcoming activities related to HPC-driven Modelling and Simulation in Big Data era. More information about the Action is available at our website http://chipset-cost.eu/.

The Big Data era poses a critically difficult challenge and striking development opportunities in High-Performance Computing (HPC): how to efficiently turn massively large data into valuable information and meaningful knowledge. Computationally effective HPC is required in a rapidly increasing number of data-intensive domains, such as Life and Physical Sciences, and Socioeconomic Systems. Modelling and Simulation (MS) offer suitable abstractions to manage the complexity of Big Data analysis in various scientific and engineering domains. Unfortunately, Big Data problems are not always easily amenable to efficient MS over HPC. Also, MS communities may lack the detailed expertise required to exploit the full potential of HPC solutions, and HPC architects may not be fully aware of specific MS requirements.

Therefore, there is an urgent need for European co-ordination to facilitate interactions among data intensive MS and HPC experts, ensuring that the field, which is strategic and of long-standing interest in Europe, develops efficiently - from academic research to industrial practice.

cHiPSet provides the integration to foster a novel, coordinated Big Data endeavour supported by HPC. Our Action strongly supports information exchange, synergy and coordination of activities among leading European research groups and top global partner institutions, and will promote European software industry competitiveness

The project started in April 2015 with 22 European countries, and has **31** Cost countriesin the end of GP1 (**14** EU countries recruited in **2014** to **29** EU countries by the end of **2015, 2** in **2016**), **6** international and **2** NNC institutions and **109** members. The project held three face-to-face meetings: MC+WG meeting in September 2015 in Cracow, Poland – it was the first meeting of the Action and we have organized a special session during the meeting to present the potential industrial partners and to establish a formal collaboration with the NESUS Action' Core Group short working meeting hosted in October 2015 by UL, Lisbon, Portugal, for coordination of the work in WGs and discuss the realization of the workplan for GP1 – after the meeting, the participants had an opportunity to stay longer in Lisbon and participate in the ICT Info Days ; and GP1 final WG+MC meeting in Dublin, Ireland. We strongly believe that during the 4 years of the Action (till April 2019) cHiPSet will be recognized as a Big Data innovation ecosystem which is arguably essential to improve the lives of all Europeans by dynamically combining diverse distributed datasets and predicting the behaviour of complex systems, increasing the precision of medical treatments, understanding economic and social interactions, and enhancing energy utilisation. Moreover, the education and training of early career computational researchers and future data scientists should directly benefit European society and its economy.

Joanna Kolodziej, cHiPSet Chair

cHiPSet Meetings

cHiPSet Management Committee and Working Groups Meeting #1
Cracow, Sep 11, 2015

The first face-to-face meetings of Management Committee and Working Groups wase held at Cracow University of Technology (Cracow, Poland) on September 11, 2015. The detailed meeting is available at: http://chipset-cost.eu/index.php/agenda/,
As part of its first MC/WG cHiPSet in Cracow on 11/Sep/2015, cHiPSet hosted a special cross-pollination session with leading industry and academic organisations. There were presentations from Center for Technology Transfer of Cracow University of Technology, Comarch, NESUS Cost Action, and the Kościuszko Institute. All presentation offer a great opportunity to increase cooperation endeavours for cHiPSet participants. More details avaiable at http://chipset-cost.eu/index.php/mcwg-meeting-special-session/.

CHIPSET Management Committee and Working Groups Meetings
September 11, 2015
Cracow University of Technology,
Cracow, Poland

High-Performance Modelling and Simulation for Big Data Applications
www.chipset-cost.eu

cHiPSet Management Committee and Working Groups Meeting #2
Dublin, April 25-26, 2016

The second MCWG meeting has been held in Dublin (Ireland) in April (http://chipset-cost.eu/index.php/agenda-2/).2016. It was the last meeting of the GP1. We summarized the research work and Action activities in GP1. During the industrial session, the following talks have been provided

Dr Simon Wong	Ireland's High-Performance Computing Centre (ICHEC)	Modelling and simulation in the physical sciences
Dr. Kostas Katrinis	IBM Research	Emerging trends in Exascale computing

The detailed agenda can be found at the following webpage:
http://chipset-cost.eu/index.php/agenda-2/

cHiPSet research activities

Publications

The results of the scientific work of the cHiP-Set members in GP1 is available as e-Technical Report on Research Work Results for GP1 and can be downloaded from the following webpage:
http://chipset-cost.eu/wp-content/uploads/2017/05/report-1.pdf
The selected chapters have been published in "Resource Management for Big Data Platforms: Algorithms, Modelling, and High-Performance Computing Techniques" Springer book
(http://www.springer.com/gp/book/9783319448800).

The following Special Issues and Special sections have been published:

- Florin Pop, Mauro Iacono, Marco Gribaudo, Joanna Kolodziej: "Advances in modelling and simulation for big-data applications (AMSBA)", Concurrency and Computation: Practice and Experience 28(2): 291-293 (2016) (IF: 0942),

http://onlinelibrary.wiley.com/doi/10.1002/cpe.3750/full
- Mauro Iacono, Joanna Kołodziej: "Complex Problems in High-Performance Computing Systems", AMCS, Volume 25 / Number 4, 2015 (IF: 1.3), https://www.amcs.uz.zgora.pl/?action=papers&issue=63

The cHiPSet members published also in vol. 2/2016 of the JTIT Journal (http://www.itl.waw.pl/archiwum-jtit?view=kwartalrok&rok=2016&kwartal=2). This journal is indexed in Scopus (http://www.itl.waw.pl/jtit-indexation) and most of the cHiPSet publications are the results of STSM scholarships. The editors of this regular issue were Ewa Niewiadomska-Szynkiewicz and Ioan Salomie.

The list of the cHiPSet publications is available at:
http://chipset-cost.eu/index.php/publications/

Organization of the conferences and scientific events:

Special session at the CIBB 2015

Andrea Bracciali (WG3 leader) and Ivan Merelli (WG3) co-organised the special session on Large-Scale and HPC data analysis in bioinformatics: intelligent methods for computational, systems and synthetic biology at the CIBB 2015 – Computational Intelligence Methods for Bioinformatics and Biostatistics international conference, which will be held in Naples from the 10th to the 12th of September.
More information:
http://bioinfo.na.iac.cnr.it/cibb2015/#schedule

SC'15 Workshop on Runtime Systems for Extreme Scale Programming Models and Architectures

cHiPSet MC Member from Austria – Prof. Siegfried Benkner from University of Vienna – co-organized a workshop on Runtime Systems for Extreme Scale Programming Models and Architectures at this year edition of Su-percomputing Conference (SC15), which will be held on November 16 in Austin, TX, USA More information is available here: at: http://sc15.supercomputing.org/schedule/event_detail?evid=wksp161

cHiPSet dissemination activities

cHiPSet presentation at DCABES

Dr. Horacio González-Vélez, cHiPSet Vice-Chair, delivered the opening keynote of the 14th International Symposium on Distributed Computing and Applications to Business, Engineering and Science (DCABES 2015) in Guiyang, China on August 18th 2015. Enti-tled "High-Performance Modelling and Simulation for Big Data Applications". His talk explained the cHiPSet vision to the interested DCABES delegates.
http://dcabes2015.jiangnan.edu.cn/Keynote%20speaker1.html

cHiPSet presented at ICT 2015 event in Lisbon

The members of cHiPSet attend the ICT 2015 event in Lisbon (20-22 October, 2015). Our action has been presented at the official Cost Exhibition point. We would like to thank Chris Irons from Cost (kneeling at the photo :-)) and his colleague – María Victoria Serrano Blazquez (making the photo) for making it possible.

cHiPSet goes Carioca: Presentation at Universidade Federal do Rio de Janeiro (21/Oct/15)

As part of the ongoing dissemination activities, Horacio González-Vélez, cHiPSet vice-chair, gave a keynote talk on the overall objectives and progress of the Action to academics at Universidade Federal do Rio de Janeiro (UFRJ) on 21st of October. Comprised of physical and computer scientists and graduate students, the UFRJ group showed significant interest in our current status and future cooperative links with cHiPSet.
https://www.ufrj.br/noticia/2015/10/22/instituto-t-rcio-pacitti-promove-evento-sobre-big-data

cHiPSet Cooperation

cHiPSet – NESUS cooperation plans

In the spirit of COST initiatives, cHiPSet and NESUS Cost Actions chairs – Prof. Joanna Kolodziej andProf. Jesus Carretero have attended each others' actions meeting held in Cracow on September 10 and 11, 2015. The main aims, objectives, and achievements of both Actions were
presented by Chairs during the plenary sessions and workshops (http://chipset-cost.eu/index.php/agenda/ , http://www.nesus.eu/second-action-wgs-workshop-and-fourth-mc-meeting.html). There was general consensus among all members of both Actions that cross-pollination has increased. There are specific endeavours to improve long-term synergies and collaborations

Cooperation with Cost Association - COST Information Sessions in Poland

We have a pleasure to announce the Cost Information Sessions organized in Cracow and Warsaw (Poland) for potential new Cost members and dissemination of the Cost pro-
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gramme and tools. The session in Cracow is hosted by Cracow University of Technology and the Chair of our Avtion will present cHiP-Set

European Cooperation in Science and Technology

is pleased to invite you to the information session
Introduction to the COST Framework
in Cracow on 16 February 2016
and in Warsaw on 17 February 2016

You will be informed and advised
about the **COST Framework's policies, activities and funding opportunities**
with an emphasis on the **Open Call for new COST Actions proposals**.

COST Action participants from Poland will explain
the **added value and impact** of their involvement in COST Actions
and will share their **experiences and best practices**.

Attendance is open to **national and local research communities**,
as well as **industry, SMEs, private labs, academia and other interested groups**.
Details about free registration and venues are available on the events' webpages.
Cracow – Warsaw

Announcements

Special Issue of the SIMPAT Journal

CALL FOR PAPERS
***SIMULATION MODELLING PRACTICE
AND THEORY SPECIAL ISSUE ON
"High-Performance Modelling and Simu-
lation for Big Data Applications"***
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SUBMISSION DEADLINE: July 31, 2016
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SUBMISSION GUIDELINES:
Manuscripts should be submitted online
through the Elsevier Editorial System (EES)
at the following link:
http://ees.elsevier.com/simpat
Authors must select Special Issue: cHiPSet
when they reach the "Article Type" step in
the on-line submission process.
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Submitted manuscripts should present origi-
nal contributions and must not have been
previously published nor be currently under
consideration for publication elsewhere. All
papers will be peer reviewed according to the
high standards of the Simulation Modelling
Practice and Theory Elsevier journal.
Please feel free to contact the Guest Editors
for any questions.
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Important Dates
Manuscript submission deadline
July 31, 2016

Manuscript reviews to authors
September 30, 2016
Manuscript revision due
November 30, 2016
Final notification of acceptance
January 31, 2017
Expected publication of the special issue
April 2017

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SPECIAL ISSUE EDITORS:

Prof. Joanna Kolodziej
Vice-Director of Institute of Computer Sci-
ence for Research and Development
Head of Computational Intelligence Lab
Cracow University of Technology
PL-31-155 Cracow
email: joanna.kolodziej68@gmail.com
Prof. Eleni Karatza
Director of Multimedia Laboratory
Department of Informatics
Aristotle University of Thessaloniki
54124 Thessaloniki, Greece
email: karatza@csd.auth.gr

Dr. Horacio González-Vélez.
Associate Professor and Head, Cloud Compe-
tency Centre.
National College of Ireland
Dublin 1, Ireland
email: horacio@ncirl.ie