6th BSC SO Doctoral Symposium

Objectives

The aim of the BSC Severo Ochoa Doctoral Symposium is to provide a forum in which PhD students and PostDoc researchers can present the results of their research work. To reach these goals, the attending PhD students and PostDoc researchers will share their experience and findings through talks, poster sessions and discussions.
The tutorials on the symposium focus on career development with lectures on research and functioning skills: presentation, academic writing, IPR issues etc.

Authors are invited to submit manuscripts regarding original research and recent developments as well as position and strategic papers in the remit of the Symposium.

All accepted abstracts will be given presentation or poster slot.

The submitted abstracts must be camera-ready and formatted according to the doctoral symposium "how to submit" regulations and not exceeding the max length. Submission implies the willingness of the main author to register and present the talk/poster.

IMPORTANT DATES

Abstract submission deadline: EXTENDED! April 7th, 2019
Notification of acceptance: April 9th, 2019
To submit presentations: May, 2nd, 2019 by email to: education@bsc.es
To submit posters: May, 2nd 2019 at 12h Hand out your poster at the Education&Training Office (212 2nd floor, Nexus II) by 12pm the latest. Ask for MªJosé or Carolina
Attendee registration deadline (only for non-presenters): April 30th, 2019

How to Submit

1. For the Extended Abstract, please use the BSC-IDS format (2 or less pages, approx. 800 words) including references, diagrams and illustrations). The abstract should have as a main author a PhD candidate or Post Doc researcher and no more than 3 authors, including the applicant's main supervisor. Link to Extended abstract template in MS Word and LaTex is in the submit link. Please **create a PDF file** and upload it. Make sure the size of the page is A4 (210mm x 297mm) and not letter (215,9mm x 279,4mm).
2. Include your short bio with recent photo at the end of the Extended Abstract as per the template.
3. Please take the time to spell check carefully your paper and bio.
4. Please follow exactly the IEEE templates provided and do not omit or add additional type of affiliation information and do not change the outline or formatting.
    - For BSC affiliated applicants, please use the document "Guidelines for expressing BSC Affiliation in Publications"
5. Fill in the registration form. Please indicate if you would like to present a talk or a poster.

Requirements for the Extended Research Abstract

Your Abstract should contain:

- Title
- Your name, affiliation and e-mail address
- Your supervisor's name, affiliation and e-mail address
- The content of your abstract should relate to your research work and include at least one of the following :
    - Description of the research problem you are investigating with justification of its importance and expected contributions of your thesis
    - Results so far and their analysis and/or plans for future development
    - Outline of prior unsuccessful work with proposed approaches for solution
    - Short bio as formated in the IEEE template

Evaluation Criteria

The applications will be evaluated and the accepted ones will be given presentation or poster slot. The reviewers will be looking at the quality of the research work and its relevance to the scope of the event and the quality of the Extended Abstract.

When the Selection Committee is allocating presentation or poster slot, the stage of the research will be taken into account.

Key Note Speaker

Tuesday May, 7th

David Bueno i Torrens (Barcelona, ??1965) is a doctor in biology and professor of genetics at the University of Barcelona. His professional and academic career has been developed in Barcelona and Oxford, focusing on the genetics of development and neuroscience, and its relationship with human behavior. He teaches several subjects in the field of genetics and has published more than fifty scientific articles in specialized journals. In the field of scientific dissemination, he has published seven books to bring science closer to the public, as well as several textbooks.

Brain and behaviour: to which extent are we responsible for who we are?

The brain is the organ of thought. Its neural networks manage all our behaviours. Its ontogenetic origin, however, is dual. On one hand, its formation and its functioning are conditioned by a number of genes, which make each person more or less prone to any cognitive ability as well as for any behavioural response. On the other hand, the environment also influences how the synaptic conexions are established, which in turn sets the neural networks, whose activity will generate all the behaviours and learning. What is the relative influence of each of these factors? Can we contribute to the construction of our brain? In this keynote we will discuss to which extent we are responsible for being who we are.

Wednesday May, 8th

Jeffrey Vetter, Ph.D., is a Distinguished Research and Development Staff Member as well as the founding group leader of the Future Technologies Group in the Computer Science and Mathematics Division at Oak Ridge National Laboratory (ORNL). In addition, he holds a joint appointment at the Electrical Engineering and Computer Science Department of the University of Tennessee-Knoxville. Vetter is a Fellow of the IEEE and a Distinguished Scientist Member of the ACM. In 2018, he was awarded the ORNL Director's Award for Outstanding Individual Accomplishment in Science and Technology. In 2010, as part of an interdisciplinary team from Georgia Tech, NYU, and ORNL, Vetter was awarded the ACM Gordon Bell Prize. In 2015, he served as the SC15 Technical Program Chair (the annual supercomputing conference with nearly 13,000 attendees). His recent books, entitled "Contemporary High Performance Computing: From Petascale toward Exascale (Vols. 1-3)," survey the international landscape of HPC. See his website for more information: https://ft.ornl.gov/~vetter/.

Preparing for Extreme Heterogeneity in High Performance Computing (to download the presentation, please click here)

While computing technologies have remained relatively stable for nearly two decades, new architectural features, such as heterogeneous cores, deep memory hierarchies, non-volatile memory (NVM), and near-memory processing, have emerged as possible solutions to address the concerns of energy-efficiency and cost. However, we expect this 'golden age' of architectural change to lead to extreme heterogeneity and it will have a major impact on software systems and applications. Software will need to be redesigned to exploit these new capabilities and provide some level of performance portability across these diverse architectures. In this talk, I will sample these emerging memory technologies, discuss their architectural and software implications, and describe several new approaches (e.g., domain specific languages, intelligent compilers and introspective runtime systems) to address these challenges.