

CFCAM Sponsored Event

**Journée française de visualisation scientifique
VISU 2013**

Octobre 2013 at IBPC, Paris

Organizer1

Marc Baaden

CNRS

baaden@smplinux.de

Organizer2

Michaël Aupetit

CEA

michael.aupetit@cea.fr

1 **Proposal**

1 **Introduction and motivation**

The « Journée française de visualisation scientifique » series of events has taken place on an annual basis since 2010 (details at <http://visu2010.imag.fr>, <http://visu2011.imag.fr>, <http://visu2012.imag.fr>) and on average gathers about 70 participants from academic and industrial sectors in French research, focusing on the visualisation of scientific data (including researchers, teachers, engineers and project leaders).

The French scientific community and industry are particularly active in this field, but may work in very diverse contexts (scientific disciplines, industrial sectors) such as fundamental and applied research from computer science to all disciplines of the natural sciences. This annual meeting is a unique opportunity to exchange and meet, thus helping to create a « meta »-community around the visualisation of scientific data.

It is also a particularly timely endeavour and a single example from the field of biology should suffice as illustration: Rinaldi A (2012) More than meets the eye. Modern experimental techniques require increasingly sophisticated approaches to data visualization. EMBO Reports 13: 895–899.

2 **State of the art**

Scientific visualization consists in producing intelligible and interactive visual representations of scientific data that is often very complex and of strongly increasing size (for example in numerical simulations). These representations help to explore, interpret and communicate the experimental results. A major challenge in visualisation is the analysis of spatial data, with the aim to simplify the complexity of those data and to produce more compact representations, eventually at multiple scales. The aim of this event is thus to help France become a key player in this emerging line of research about scientific visualisation and to bring together experts with the many skills required to succeed in this venture.

In this respect, visualization is clearly at the heart of the interests of the « Maison de la Simulation » and of CFCAM.

3 **Objectives**

The « Journée Visu » series of meetings is to our knowledge the only regular event that brings together the French players in the field of scientific and information visualization from academic, teaching and industrial sectors. Because this activity spans so many scientific disciplines, it is only rarely present at other meetings. One of the objectives of these meetings is thus to help create a “meta”-community with respect to these themes.

The 2013 meeting may put a particular emphasis on applications in the field of molecular objects and simulations, all the while striving to achieve a balance between scientific visualization and information visualization topics. A non-exhaustive list of possible subjects includes algorithms for post-treatment and analysis and visual interpretation of scientific data ; algorithms for (non-spatial) information visualization ; developpment of representations taking into account the perception abilities of humans, associated with intuitive and ergonomic

interaction techniques ; algorithms for the visualization of large scale scientific data ; visualization techniques adapted to new infrastructures for computing, storage, communication and display.

Another objective is to advertise activities by CFCAM and « Maison de la Simulation ». With respect to the requested sponsorship, CFCAM and « Maison de la Simulation » will be featured on all communication material used at this event (web site, PDF Flyer, call for participation, booklet). In particular, a clickable link towards their websites will appear in the « Sponsors » section of the VISU2013 website. It would also be possible to include a short presentation of the activities (related to scientific visualisation) in the programme.

4 Participant List

The detailed program of VISU2013 is not yet established. It will be put together after selecting among the presentations submitted to the call for participation. In preliminary discussions, in particular the following potential speakers have been mentioned : David Auber, LaBri on visualization of RNA, Benno Schwikowski, Pasteur Institute and his work on CytoScape, Tobias Isenberg, INRIA on molecular visualization. As to international speakers, we are considering Helwig Hauser from Norway, a pioneer in visualization in general and recently interested in applications to molecular biology ; Chandrajit Bajaj from USA, applying algorithms and mathematical principles to visualization in structural biology ; John Stone, author of the VMD software, largely used in the biomolecular simulation field.

Generally speaking, we aim at a good balance between SciVis and InfoVis fields, the two main orientations in the French community.

For information, in 2012, a keynote lecture was given by Chris Garth from University of Kaiserslautern about flow visualization. This was followed by 7 presentations from both academia and industry. 3 sessions with demonstrations were held.

The oral communications of the 2012 edition are available at the following URL (link towards PDF files from the presentation titles) :

<http://visu2012.imag.fr/#journee>

The 2013 edition VISU2013 will follow a similar schedule. The final choice of the invited international speaker will be determined by the organisers in the coming weeks.

Scientific and organising committee :

Organisers :

Marc Baaden, CNRS

Michaël Aupetit, CEA.

Programme Committee (preliminary) :

Georges Pierre Bonneau, UJF

Thierry Carrard, CEA

Jean Michel Dishler, Université de Strasbourg
Jean Daniel Fekete, INRIA
Mountaz Hascoet, Université Montpellier II
Bruno Jobard, UPPA
Philippe Pébay, Kitware
Bruno Pinaud, Université bordeaux I
Bruno Raffin, INRIA
Alejandro Ribes, EDF
Julien Tierny, CNRS
Gilles Venturini, Université de Tour
Fabien Vivodtzev, CEA

2 **Financial Support**

Typically, attendance of the “VISU” day is free of charge and open to anybody within the limits of available space (70 participants).

The anticipated budget for the event is as follows:

- coffee breaks and lunch buffet : 25 to 45 €/per participant
1750 €to 3150 €
- accommodation of invited international speaker (+ food) : 250 per night x2.
500 €
- transport for the invited international speaker (depends on provenance)
1000 €to 2000 €
- cost for using and preparing the conference facilities at IBPC
500 €
- cost for of participant’s materials (booklett, pen, name tag)
750 €
- live streaming of the event (*currently being investigated*)
?? €
- **Overall budget**
4500 €to 6900 €

4000 €Requested to CFCAM. Possible other sources:

Réseau Chimie Théorique Français (www.rctf.fr, requested contribution : 1000€),

Kitware SAS (www.kitware.fr, requested contribution : 1000€),

Oxalya (www.oxalya.com, requested contribution : 1000€).