

TERATEC Forum 2013

Workshop 5 - Wednesday, June 26, 2013, 14:00/18:00

HPC in Biology and Health

Chaired by François BALLET, MEDICEN and Christian SAGUEZ, TERATEC

Biology and healthcare are beginning to rely more and more heavily on information and communication technologies, including high performance computing. Applications include processing large volumes of data or information (biological (genomic, proteomic) or clinical (medical imaging, epidemiology, etc.)) and simulating complex phenomena (molecular modeling, physiome, disease mechanisms, medication effects, design for nanosystems, biomaterials, artificial organs, surgical robots or robots to assist the disabled, etc.).

All of the activities related to monitoring and assisting patients (smart systems, remote medicine, etc.) also benefit. As you can see, these technologies have applications in all medical needs related to prevention, diagnosis, and treatment.

After Dr. François Ballet, chairman of the R&D Committee for the MEDICEN competitiveness cluster, gives an introductory presentation reviewing the main current uses of HPC in healthcare, we will take a closer look at two specific fields of application:

- Integrative biology, particularly in researching and designing new medications,
- The use of medical imaging and virtual reality techniques

Through these presentations and the ensuing discussions, this workshop organized by TERATEC and MEDICEN will aim to lay a general foundation for future initiatives combining healthcare and HPC.

14h00 **High performance computing and simulation in medicine: scope and challenges**
By François BALLET, MEDICEN

Abstract; & Biography ■■■

14h30 **The discovery of innovative therapeutic approaches: under the street light is not necessarily the right place to search**
Dr. François IRIS, Chairman & CSO, BIO-MODELING SYSTEMS

Abstract; & Biography ■■■

15h00 **Can HPC help cure Pharma R&D?**
By Philippe GUILLET, Chief Geriatrician, SANOFI

Abstract & Biography ■■■

15h30 **Coffee break - Exhibition - Networking - Grand Hall**

16h00 **Le cerveau de cristal - Ce que nous révèle la neuroimagerie**
By Denis LE BIHAN, CEA

Abstract & Biography ■■■

16h30 **Simulation & High performance computing: The challenge of computer-assisted surgery**
By Luc SOLER, R&D Director of IRCAD, R&D Director of IHU Strasbourg

Abstract & Biography ■■■

This workshop is organized in partnership with the cluster for innovative therapies and advanced technologies in healthcare

