

**Philippe Chomaz**  
**Director of Irfu, CEA-Saclay**

Since August 2008, Philippe Chomaz is the head of the CEA-Saclay Institute for Research into the Fundamental laws of the Universe (IRFU CEA-Saclay).



Philippe Chomaz studied at the École Normale Supérieure in Paris and presented a thesis on nuclear physics in 1984. He worked at CNRS-Orsay and at LBL-Berkeley, on nuclear experimental and theoretical physics. Since 1991 he worked for the CEA at the French national heavy ion accelerator (GANIL) in Caen, where he became deputy director in 2005 when GANIL started the construction of a new facility for radioactive beams, SPIRAL2

During the first 15 years of his career he worked both in experimental and theoretical nuclear physics but during the past 10 years he focused his activity in theoretical Physics. His scientific works mostly deal with theoretical nuclear physics, but have also led to progress in general physics, mesoscopic systems, statistical mechanics and quantum mechanics with the definition of phase transitions in small systems, the study of collective vibrations of fermionic systems and the development stochastic approaches. Most of his theoretical works and predictions have led to original experimental studies. In particular, results on phase transitions in small systems (negative heat capacity, spinodale decomposition) led on both theoretical and experimental advances.

His work focuses on:

- n The nuclear structure, the collective modes (multi-phonons) and dynamical response. He studied these properties not only in nuclei but also in atomic clusters.
- n The thermodynamics and phase transition. In particular, he developed a unified understanding of phase transitions in small systems, which was applied in different fields of physics: for nuclear physics, he launched and led the World Consensus Initiative (WCI).
- n The nuclear astrophysics and properties of supernovas and neutron stars.

Along with this scientific activity at an international level, Philippe Chomaz is deeply involved with science outreach and popularization. He is at the origin of the science cafés in France in 1997, created a science culture centre in Caen and wrote a science novel book “Des sequoias dans les étoiles”, popularizing the origin of the elements.

Note:

IRFU is a part of CEA’s Matter Science Directorate in Saclay, near Paris (France). Its fundamental research activities cover astrophysics, nuclear physics and particle physics. It is a major actor in physics instruments development, detectors or accelerators; its expertise encompasses cryomagnetism, space technologies, engineering, electronics and data processing. IRFU is strongly involved in academic training. Its scientific and technical skills, its fruitful implementation into CEA, the coherence of its organization and its project management culture, all add up to a world-class institution.

More details on <http://irfu.cea.fr>

See a video interview (in French) at

[http://irfu-i.cea.fr/Phoce/Vie\\_des\\_labos/News/index.php?act=visu&id\\_news=1522](http://irfu-i.cea.fr/Phoce/Vie_des_labos/News/index.php?act=visu&id_news=1522)