

The prize “Edouard Fabre 2016” for contributions to the physics of laser-driven inertial confinement fusion and laser-produced plasmas has been assigned to Jerome Faure, LOA.

For the second year, the COST Action MP1208 “Developing the physics and the scientific community for Inertial Confinement Fusion” has promoted the Prize entitled to the memory of Edouard Fabre, in collaboration with ILP, Institut Lasers et Plasmas in France. The Prize is especially addressed to researchers in full activity, within about 15 years after obtaining their Ph.D. It has been delivered at the next EPS conference on Plasma Physics held in Lisbon, Portugal, from 22 to 26 June 2015.

Edouard Fabre has been one of the fathers of ICF studies in Europe, and a promoter of the direct-drive approach to Inertial Fusion for the Future Production of Energy. He began to work on CO₂ and ruby laser, later moving to Nd:glass. In the 70's he gathered the French laser and plasma scientists to work on ICF and related physics in a research group (GRECO), which was at the basis of future developments in the fields. In 1988 he founded LULI (Laboratoire pour l'Utilisation des Lasers Intenses), which has played a leading role in Europe in civilian academic research in ICF and HED science. The 6-beam laser facility at LULI allowed to perform academic implosion experiments all over the 80's. At the beginning of the decade, he and his collaborators showed that using short-wavelength lasers one could increase absorption, reduce the impact of parametric instabilities, minimize hot electron production and optimize hydrodynamic efficiency. This has opened the way to using short wavelength lasers for implosion experiments, which is nowadays the standard approach to compressing ICF targets.

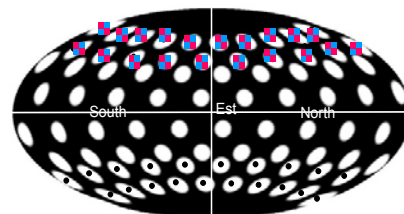


Jerome Faure's graduate research was performed at LULI on laser plasma interaction in the relativistic regime. After obtaining his PhD in 2001, he went for two years, as a post-doc, at the Lawrence Berkeley National Laboratory in the group of Wim Leemans. In 2003, he obtained a CNRS position at Laboratoire d'Optique Appliquée in the group of Victor Malka where he performed remarkable experimental work in developing laser-plasma accelerators, demonstrating the possibility of using laser-plasma interaction to accelerate electrons in extremely short distances and producing high quality electron beam. In 2012, he got an ERC Starting grant to produce with a kHz laser system, femtosecond electron bunches and to apply them for the study of ultra fast phenomena using electron diffraction with femtosecond time resolution. In parallel Jerome Faure teaches quantum physics and statistical physics as Associated Professor at Ecole Polytechnique. He is now a CNRS research director and the head of the APPLI research group at LOA (Application of ultrafast sources to solid state physics)..

The COST Action MP1208 aims at developing a scientific community in Europe working in Inertial Confinement Fusion and High Energy Density Physics. The Action is complementary and synergic to several initiatives going on in Europe, in particular the construction of Laser Megajoule and Petal in France (LMJ/PETAL facility), which will open to the European academic community for civilian research in 2017.

More info at:

<http://laserfusion.eu/>



Countries participating to MP1208 Action: France (proposer) Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Germany, Greece, Hungary, Ireland, Israel, Italy, Lithuania, Poland, Portugal, Romania, Serbia, Spain, Switzerland, United Kingdom