2019 Edouard Fabre prize

The prize has been established by the European COST Action MP1208 “Developing the physics and the scientific community for Inertial Confinement Fusion” in 2014 to commemorate one of the founders of the directly-driven Inertial Confinement Fusion for Energy studies in Europe. It is rewarding active researchers at mid-career (within 15 years of the doctoral degree) for contributions to the physics of laser-driven inertial confinement fusion and laser-produced plasmas.

The 5th Edouard Fabre prize is awarded September 26, 2019, at the 11th edition of the Inertial Fusion & Scientific Applications (IFSA) conference held in Osaka (Japan), to:

Shinsuke Fujioka (ILE, Osaka University)

for his seminal contributions to the production and measurement of magnetic fields driven by intense lasers and laboratory astrophysics experiments.

The prize has been selected by an international selection committee comprised of six members nominated by the IFSA co-chairs and the last two winners, namely (per alphabetical order): F. Albert (LLNL, USA), D. Batani (CELIA, France), A. Casner (CELIA, France), B. Hammel (LLNL, USA), D. Hinkel (LLNL, USA), M. Murakami (ILE, Osaka University, Japan), P. Norreys (Oxford University, UK), Z. Sheng (Shanghai Jiao Tong University, China).

Past winners (historical order): Gianluca Gregori (U. Oxford) & Stéphane Sebban (LOA), Pierre Michel (LLNL), Jérôme Faure (LOA), Félicie Albert (LLNL) & A. Casner (CELIA)

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 gathered the French laser and plasma scientists working in the field first in a research network then through the foundation of the Laboratoire pour l’Utilisation des Lasers Intenses (LULI) whose facilities are allowing, since then, performing high-energy-density experiments. In the early 80’s, Edouard Fabre 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 compress ICF targets.