

## ***46ESS-42: Alternative Fuels for Aero Gas Turbine Engines***

**AINHOA AMEZUA**

*Conventional fuels used by aero gas turbine engines are fossil-based fuels. The most common ones are the Avgas (or aviation gasoline) and the kerosene. However, nowadays, there are appearing new and alternative fuels in order to fulfil actual requirements, such as reducing the level of CO<sub>2</sub> emissions or reducing the carbon footprint, as well as improving their efficiency and reducing the Green House Gas emissions. One of these new kinds of fuels is the bio-derived fuel (or biofuel). It is derived from oil crops or from wood and waste biomass. Looking at the last results, it seems to be a good alternative, with more problems due to economic and politic issues than due to technical issues. There are also other fuels, like methanol, ethanol, synthetic fuels or liquid natural gas, which are being investigated. The main target of this paper is to describe and explain the different options of alternative fuels, their characteristics and possible applications.*