

## **46ESS-10: Lubrication Systems for Aero Gas Turbines**

**ZESTER RODRIGUES**

*In the aviation industry, the assistance of systems is essential to assure gas turbine engine performs optimally during the entire flight envelope for which they are designed. An example of this is the lubrication system, whose function is dual. Firstly, it must extract the heat produced in the highly loaded rolling bearings, the gears of the power and accessory gearboxes via heat exchangers. Additionally, it has to ensure that all these parts are adequately lubricated.*

*The delivery of higher pressure ratios, higher TET's and increased component efficiencies have led to the prominent advancement of gas turbines. Due to this, the need for a well-designed lubrication system is highly imperative along with the ease of systems integration, selection of the correct lubricant and suitable periodic maintenance schedule/procedures.*

*This papers aims to evaluate an ideal lubricant; its properties, different types of lubrication systems and components that are involved in an aero gas turbine. It will also review the various kinds of health monitoring system developed in order to not only provide vital indications to evade tragic failures. Moreover, its function also lies in improving the engine operational cost for airline operators. Lastly, the demands of future developments in lubrication systems will also be effectively analysed to guarantee better performance within the engine.*