

# Dept. Aerospace Engineering SEMINAR

## Recent Advance in Gas Turbine Burner Development towards Energy Transition

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Today, transport and energy production emissions represent around 75% of the EU's total greenhouse gas emissions, and these emissions have increased over recent years. The target is to achieve near zero emission by 2050 requires **ambitious changes in air transport** and energy production plants. A clear path is needed to achieve **a 90% reduction in transport-related greenhouse gas emissions by 2050**. The European Commission adopted a set of proposals to make the EU's climate, energy, transport and taxation policies fit for reducing net greenhouse gas emissions by at least 55% by 2030, compared to 1990 levels. To achieve this ambitious target, many projects are ongoing to reduce the emissions by using decarbonized fuels and/or using Sustainable Fuels. In this context, the contributions of researchers in the field on burner development and/or modification for retrofitting existing plants are fundamental to reach the 2050 objective.

Dr. Allouis christophe is a Senior Researcher of the Insitute of Science & Technology for Energy and Sustainable Mobility of the Italian Nationl Research Council. His research is focused and Burner design, integration, and optimization of aerospace and energy production technologies, with a focus on future concepts for sustainable aviation and electricity production. Over the past 15 years, he has developed innovative optical diagnostic tools and post-processing methods based on machine learning for industrial research, promoting a systems-level approach to assess the failure prediction due to combustion instabilities. He is co-authored of 52 papers with 975 citations and a H-index=19.