



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

Faculty of
Engineering

GAS TURBINE COMBUSTION RESEARCH GROUP (GTCRGR)



Swirler



Chamber



Biofuel Flame



Micro Gas Turbine Unit



Gasifier Unit

NICHE AREA

- Production of syngas from biomass waste.
- Production of biodiesel and bio-kerosene.
- Development of micro gas turbine, gasifier and monopropellant thruster.
- Emissions reduction using retainer and swirler.
- Chamber design and structures analysis for microthruster.
- Torrefaction process of biomass.

SERVICES AND FACILITIES

- 25 kW Downdraft Gasifier for Biomass Gasification.
- 25 kW Fluidized Gasifier for Biomass Gasification.
- Lab-scale Gas Turbine.
- Lab-module Micro Gas Turbine.
- Online Gas Analyzer.
- Axial Baltur Burner BT10 and BT14.
- Swirl Burner.
- Gas-Spark Burner.

FLAGSHIP RESEARCH

1. PRGS, Micro Turbine Capable of Utilizing Various Liquid Fuels, RM 125,080.
2. FRGS, Optimization Study for Conversion of Triglycerides to Kerosene Type Aviation Fuel via Catalytic Deoxygenation Method, RM 87,980.
3. FRGS, Monopropellant Thruster, RM 88,000.
4. Mathematical Modelling Based Optimization of Alkyl Ester Biofuel Production from Waste Oil, RM 30,000.
5. PRGS-ICC, Fixed bed Gasifier, RM 20,000.
6. PRGS-ICC, Micro Gas turbine, RM 20,000.
7. UTM-University of Cambridge, Development of Biogas from Biomass Waste, RM 977,000.
8. Tier 1, Combustion Performance of Bio-based Liquid Fuel for Gas Turbine Application RM 200,000.
9. Sciencefund, Multiple Inlet Swirl Stabilized Burner for Biofuels Combustion, RM 340,000.
10. Sciencefund, Development of Database for Biofuel Combustion Properties, RM 4,984,000.
11. Sciencefund, Theoretical and Experimental Study on the Effects of the Turbulence Production on the Mixing in a Tubular Combustor a Micro Gas Turbine, RM 251,997.

For further details, please contact:

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