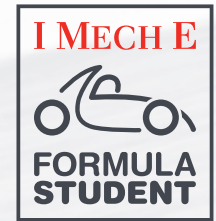


## FORMULA STUDENT

Institution of Mechanical Engineers



# Congratulations to Queen's University Belfast

FOR PARTICIPATING IN FORMULA STUDENT 2008

**QFR08 is the seventh car from Queen's University and has benefited from lessons learned over past campaigns. Queen's Formula Racing (QFR) consists of six committed Stage 4 MEng students, supported by fourteen enthusiastic Stage 3 members. The Stage 4 students used their complimentary skills to design and build one of the most competitive cars to date, while the Stage 3 students carried out research projects for future car development while gaining invaluable practical skills and knowledge during the build process.**

The design team was broken into four technical groups consisting of Chassis, Suspension, Unsprung mass and Powertrain. The team ethos throughout the year was "Design for success not perfection" and as a result the manufacture was completed to schedule and new engines have been developed to produce the most powerful QFR car.

To gain better insight for the future, members of QFR were involved in all aspects of production and testing. This has led to a car which has been designed not only for manufacture but also for ease of assembly and adjustability. With more manufacture being taken on by team members the car was out on track sooner. Individual event setups have been established and numerous driver training hours spent shaking down the car.



**Length/width/height/wheelbase**  
2610mm/1410mm/1080mm/1600mm

**Track (front/rear)**  
1148mm/1093mm

**Weight including 68kg driver (front/rear)**  
130kg/160kg

**Suspension (front/rear)**  
Double unparallel unequal length A-Arm. Push rod actuated horizontally oriented spring and damper

**Tyres (front/rear)**  
20 x 6-13 Avon A45/20 x 7 - 13 Avon A45

**Wheels (front/rear)**  
6 inch wide/7 inch wide, 3 pc Al Rim, 1.5 inch neg. offset

**Brakes (front/rear)**  
Floating, Cast Iron, hub mounted, 220mm dia/Fixed, Cast Iron, hub mounted, 185mm dia

**Frame type**  
Front Steel tubular spaceframe with bonded Carbon Fibre Floor Panels, Rear Steel tubular spaceframe,

**Engine**  
2005, Yamaha YZF-R6

**Bore/stroke/cylinders/cc**  
65.5 x 44.5 mm/4 cylinder/600 cc

**Fuel**  
Petrol

**Fuel system**  
Student designed/built sequential fuel injection system using DTA ECU

**Max power/max torque**  
11,000rpm/9,000rpm

**Transmission/differential/final drive**  
Chain/Quaife Automatic Torque Bias Limited Slip Differential, Ratio 3.7:1/3.92:1