

ACHIEVEMENTS

- ✓ **Best Poster**, 15th Regional Symposium on Chemical Engineering (RSCE) in conjunction with the 22nd Symposium of Malaysian Chemical Engineering (SOMChE), Kuala Lumpur, Malaysia, 2-3 Dec 2008.
- ✓ **Silver Medal**, Industrial Art Technology Exhibition (INATEX), Universiti Teknologi Malaysia, Johor, Malaysia, Aug 2008.
- ✓ **Silver Medal**, 17th International Invention Innovation Industrial Design & Technology Exhibition 2006 (ITEX 2006), Kuala Lumpur, Malaysia, 19-21 May 2006.
- ✓ **Silver Medal**, 33th International Exhibition of Inventions, New Techniques and Products of Geneva, April 2005.
- ✓ **Gold Medal**, 30th International Exhibition of Inventions, New Techniques and Products of Geneva, April 2002.
- ✓ **Genius Prize**, from The Hungarian Association of Inventors for International Inventions Salon Geneva, April 2002.
- ✓ **Silver Medal**, 28th International Exhibition of Inventions, New Techniques and Products of Geneva, April 2000.

PATENTS

- ❖ Nor Aishah Saidina Amin, Mailin Misson, Roslindawati Haron, Mohd Fadhzir Ahmad Kamaroddin, (2008), "A Process For Converting Empty Palm Fruit Bunch (Epfb) To Biodiesel, Gas Fuel And Char", **Malaysia Patent PI2008 4539**
- ❖ Nor Aishah Saidina Amin, Siti Eda Misi (2008), "A process for producing biodiesel and a process for producing a catalyst used in the process for producing the biodiesel", **Malaysia Patent PI2008 4694**
- ❖ Nor Aishah Saidina Amin, Wan Nor Nadyaini Wan Omar (2008), "A process for producing biodiesel from waste cooking oil", **Malaysia Patent PI2008 4695**
- ❖ Nor Aishah Saidina Amin and Istadi, (2004), "An Integrated Reactor-Permreactor-Permeator for Natural Gas Conversion Process", **Malaysia Patent PI 20043759**.
- ❖ Nor Aishah Saidina Amin, Didi Dwi Anggoro, (2001), "A Catalyst for Converting Natural Gas to Gasoline and A Single Step Process for Producing Gasoline from Natural Gas using the Same", **Malaysia Patent PI 20013625**



UNIVERSITI TEKNOLOGI
MALAYSIA



CHEMICAL REACTION ENGINEERING GROUP (CREG)

Faculty Of Chemical & Natural Resources Engineering

CREATIF-RESOURCEFUL-EXCELENT-GREEN



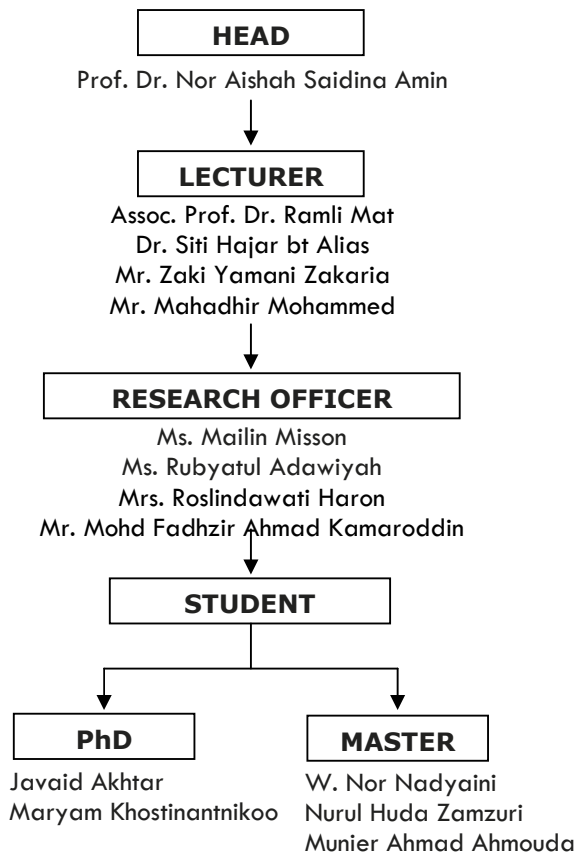
Malaysia is endowed with abundant natural resources such as natural gas, palm oil and rubber. It is the interest of the nation for these resources to be converted to higher value-added products via environmental friendly and energy efficient processes.

Chemical Reaction Engineering Group (CREG) is formed to conduct research and development (R & D) in applying the theories and principles of chemical reaction engineering to industrial processes.

AREA OF SPECIALISATIONS

- Applied Catalysis
- Reaction and Reactor Engineering
- Modeling of Chemical Reaction Systems

CREG MEMBERS



FOR FURTHER INFORMATION KINDLY CONTACT US

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CURRENT RESEARCH

- Development of Revolving Packed Bed Reactor for Production of Biodiesel from Edible Oil Waste (2009-2010)
- Product Characterization from Catalytic Liquefaction of Empty Palm Fruit Bunch (EPFB) in Near and Supercritical Water (2007-2009)
- Low Temperature Catalytic Plasma Reactor for Conversion of Methane to Fuels (2007-2009)
- Development of Integrated Catalytic Process for the Production of Biofuels (2007-2009)

PREVIOUS RESEARCH

- CO₂ and Natural Gas Utilization: Co-Generation of Synthesis Gas and Hydrocarbons in an Integrated Permreactor-Reactor Cascade (2002-2005)
- Development of Selective and Cost Competitive Catalyst for NO_x reduction in Automobile Exhaust Gas (2002-2005)
- Development of Zeolite Catalysts for the Conversion of Natural Gas to Ultraclean Liquid Fuel (IRPA TOP-DOWN: 2002-2006)
- Single Step Conversion of Methane to Gasoline (1997-1999)
- Bioprocess Control & Optimization Production of Glucose (1999-2000)
- Development of Catalysts for CO₂ Reforming of Natural Gas to Liquid Fuels (2000-2001)
- The Single Step Conversion of Methane to Gasoline over Cu, Ni, Ga/HZSM-5 Zeolites (2000-2001)
- Catalytic Hydrocracking Palm Oil to Liquid Fuels over Modified HZSM-5 Zeolite Catalyst (2001-2002)

LAB FACILITIES

Gas Chromatography Mass Detector (GC-MS)



Gas Chromatography Thermal Conductivity Detector (GC-TCD)



Furnace



Oven

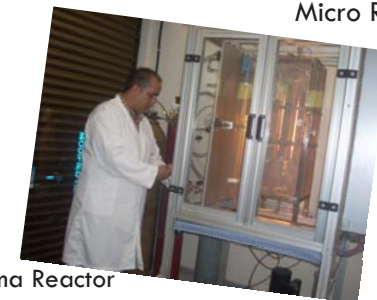


Hot Plate



REACTORS

Micro Reactor



Plasma Reactor



Pyrolysis Rig



Supercritical Rig

