

# *Management* **REPORT**

Annual Report 2009





# Research



Teaching and learning experience can be enhanced through involvement of lecturers and students in research activities and in the development of fields related to the nation's growth. The Faculty ensures that each research and development project run by the lecturers falls into the niche areas identified by the faculty in order to utilize the strength of its pool of expertise and physical facilities available.

Under the Ninth Malaysia Plan (RMK 9), the Ministry of Science, Technology and Innovation (MOSTI) offered 3 research grants: TechnoFund, InnoFund and ScienceFund. In addition, the Ministry of Higher Education (MOHE) initiated the Fundamental Research Grant Scheme (FRGS).

Throughout 2009, a total of 5 research grant applications were approved by MOSTI amounting to a total of RM 1,129,850.00, while 6 research grant applications were approved by MOHE amounting to a total of RM 296,900.00. Other research grants approved in 2009 were from IRGS, Petronas Gas, Syarikat Air Johor Holding, and R & D fund for new PhD staff and foreign academic visitors that amounted to a total of RM 1,010,901.00. The total research grant approved was RM 2,387,651.00, which enabled the Research Division to organise a number of research activities in 2009. A comparison with the research grants approved in 2008 shows an increment of 120%, which indicated that FKA is actively involved in research activities; in line with the vision of the university to be a Research University. The tables below show the summary of the research grants in details:

Research Fund	2008 (RM)	2009 (RM)
UTM / IRGS	50,000.00	50,000.00
MTSF / Petronas Gas	25,000.00	569,026.00
UTM / new staff with PhD	0	50,000.00
MOSTI	365,500.00	1,129,850.00
UTM / Syarikat Air Johor Holding	45,000.00	51,875.00
UTM / Foreign Academic Visitors R&D Fund	60,000.00	240,000.00
MOHE	536,900.00	296,900.00
<b>Total</b>	<b>1,082,400.00</b>	<b>2,387,651.00</b>







No.	Vote	Title Of Research	Research Alliance	Head Of Project	Sponsor	Budget Approved (RM)
1	78921	Modified Asphalt Cement Using Oil Palm Fruit Ash (Opfash)- The New Binder for Hot Mix Asphalt (HMA)	Construction	Assoc.Prof. Dr.Rosli Hainin/Gatot Rusbintardjo	UTM/IRGS	10,000.00
2	77914	Structural Damage Identification Using Vibration Parameters	Construction	Dr. Norhisham Bakhary	UTM/New Staff With PHD	10,000.00
3	77917	Enhanced Aerobic Sludge Granulation In Cyclic Aerobic Granular Sludge Bioreactor (CAGSBio) by Mg2+ augmentation	Water	Assoc.Prof. Dr. Aznah bint Nor Anuar	UTM/New Staff With PHD	10,000.00
4	68731	The Development of Probabilistic and External Corrosion Growth Models. PROJECT A: (Pipeline Probabilistic-Based Assessment)	Construction	Assoc. Prof. Dr Nordin bin Yahaya	Petronas Gas	189,596.00
5	77921	Distributed Optical Fibre Strain Sensing In Tunnels And Piles	Construction	Dr. Hisham Mohamad	UTM/New Staff With PHD	10,000.00
6	78925	Parametric of The Tunnel-Soil-Pile Interaction	Construction	Dr. Hisham Mohamad/ Eshagh Namazi	UTM/IRGS	10,000.00
7	79361	A Particle Swarm Optimization Approach for VLSI Routing	Water	Assoc.Prof. Dr Zulkifli Md Yusof	MOSTI	106,100.00
8	79370	Development Of Construction Noise Prediction Software Based Upon The Stochastic Modelling Approaches	Construction	Dr. Zaiton Binti Haron	MOSTI	201,200.00
9	68732	Improvement of pH in SAJH Water Network of Nusa Jaya and Tanjung Bin Sections	Water	Assoc.Prof. Dr. Azmi Aris	Syarikat Air Johor Holding (SAJH)	51,875.00
10	68733	The Development of Probabilistic and External Corrosion Growth Models. PROJECT B: (External Corrosion Growth Modelling)	Construction	Assoc. Prof. Dr.Nordin bin Yahaya	Petronas Gas	379,430.00
11	77520	Identification of Suitable Strain And Growth Condition of Microalgae For Production of Lipid Rich Biomass Using Palm Oil Mill Effluent (POME)	Water	Dr. Zubair Ahmed	UTM/Foreign Academic Visitors R&D Fund	30,000.00



No.	Vote	Title Of Research	Research Alliance	Head Of Project	Sponsor	Budget Approved (RM)
12	77521	Investigation Of Climate Change Impact For Sustainable Water Management in Muda Irrigation Schemes, Alor Setar, Malaysia	Water	Assoc. Prof. Dr Md Hazrat Ali	UTM/Foreign Academic Visitors R&D Fund	30,000.00
13	77522	Sand Behaviour Characterization For Various Grain Size Distributions	Construction	Dr. Mokhammad Farid Ma'ruf	UTM/Foreign Academic Visitors R&D Fund	30,000.00
14	77524	Development of Porous Concrete : Properties and Applications	Construction	Dr. Muhammad Aamer Rafique Bhutta	UTM/Foreign Academic Visitors R&D Fund	30,000.00
15	78928	Experimental Works on Varying Shape of Underside Surface Concrete Block Pavement	Construction	Prof. Ir. Dr. Hasanani Md Nor/Azman Mohamed	UTM/IRGS	10,000.00
16	77526	Analysis Of Reinforced Concrete Columns With Embedded Pipes	Construction	Prof. Dr. Jahangir Bakhteri	UTM/Foreign Academic Visitors R&D Fund	30,000.00
17	77529	Investigation Of Strength And Durability Of Some Lesser Known Varieties Of Malaysian Timbers	Construction	Assoc. Prof. Dr.A.S.M. Abdul Awal	UTM/Foreign Academic Visitors R&D Fund	30,000.00
18	77530	Impact Of Rainfall On Highway Capacity Loss	Transportation	Assoc. Prof. Dr.Johnnie Ben-Edigbe	UTM/Foreign Academic Visitors R&D Fund	30,000.00
19	77934	Anaerobic Treatability of Recalcitrant Wastewater	Water	Dr. Muhamad Ali Muhammad Yuzir	UTM/New Staff With PHD	10,000.00
20	78929	Sustainability Elements in IBS System Formworks	Construction	Dr. Rozana Zakaria/ Mohammed Tahir Ahmed	UTM/IRGS	10,000.00
21	78416	A Study of Uncertainties in Vibration Based Damage Detection for Reinforced Concrete Bridge	Construction	Dr. Norhisham Bakhary	MOHE	50,000.00
22	78424	Meshfree Formulations for Surface Runoff Incorporating GIS	Construction	Prof. Ir. Dr. Mahmood Md. Tahir	MOHE	46,900.00
23	78435	Homogenized Formulation of Curved Beam for Triaxial Weave Fabric Composite Model	Construction	Dr. Ahmad Kueh Beng Hong	MOHE	50,000.00





No.	Vote	Title Of Research	Research Alliance	Head Of Project	Sponsor	Budget Approved (RM)
24	77533	Application Of ANFIS In Prediction Of Storm-Induced Coastal Currents	Not Registered RA	Assoc. Prof. Dr. Abbas Yeganesh-Bakhtiary	UTM/Foreign Academic Visitors R&D Fund	30,000.00
25	77945	Partial Interface Interaction of Precast Slab with Concrete Topping	Construction	Dr. Izni Syahrizal Ibrahim	UTM/New Staff With PHD	10,000.00
26	79381	Modelling Circulation And Fate And Transport In An Estuarine System For Large Scale Shellfish Industry	Water	Dr. Noor Baharim Hashim	MOSTI	411,500.00
27	79385	Development Of Impact Simulation Models With Adaption To Climate Change On Kerian, Muda And Sungai Besar Irrigation Schemes	Water	Assoc. Prof. Dr.Sobri bin Harun	MOSTI	254,450.00
28	78934	Characterization of Natural Fiber Polymer Composites for Structural Elements	Construction	Assoc. Prof. Dr.Jamaludin Mohamad Yatim	UTM/IRGS	10,000.00
29	79387	Energy Recovery From POME Treatment Using Micro-Algae Grown In Hybrid Bioreactor	Water	Dr. Mohd Fadhil Md Din	MOSTI	156,600.00
30	78498	Characterization of Anaerobic Granular Sludge in Bioconversion of Leachate	Water	Dr. Muhamad Ali Muhammad Yuzir	MOHE	50,000.00
31	78507	Experimental Study on High Density Polyethylene Rice Husk Biocomposites for Structural Systems	Construction	Assoc. Prof. Dr. Jamaludin Mohamad Yatim	MOHE	50,000.00
32	78508	Assessment of Potential Alkali Aggregate Reaction (AAR) of Granite Aggregate in Johor	Construction	Assoc. Prof. Dr Mohammad Ismail	MOHE	50,000.00
33	79216	Collaborative Teamwork in Construction	Construction	Assoc. Prof. Dr. Mohamad Ibrahim Mohamad	MOSTI	268,400.00
34	78210	Integrating Surface Models & Photogrammetric Digital Image Correlation in Determining Displacement & Strain Measurements in Experimental Mechanics	Construction	Assoc. Prof. Dr. Mushairry Mustaffar	MOHE	80,000.00
35	78268	Managing Structural Failure	Construction	Assoc. Prof. Dr. Mohamad Ibrahim Mohamad	MOHE	80,000.00





NO.	VOTE	TITLE OF RESEARCH	RESEARCH ALLIANCE	HEAD OF PROJECT	SPONSOR	BUDGET APPROVED (RM)
36	73226	Computerized Work Elements Extraction from the Approved Structural Digital Drawing	Construction	Dr. Rosli Mohamad Zin	CIDB	1,100,000.00
37	78265	Framework for Life Cycle of Building Construction Materials	Construction	Dr. Khairulzan Yahya	MOHE	100,000.00
38	78252	The Study of Noise from Construction Site	Construction	Dr. Khairulzan Yahya	MOHE	100,000.00

