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R&D MALAYSIA

TAKING SOCIAL SCIENCE RESEARCH TO THE FORE



# Excellence in social science research

**DEVELOPING INTELLECTUAL CAPITAL THROUGH R&D:** Attracting, nurturing, and retaining talented knowledge workers are the main thrusts of our intellectual capital development strategy at Universiti Utara Malaysia (UUM), says Professor Dr Rosna Awang Hashim, the Deputy Vice-Chancellor for Academic and International Affairs.

"UUM aspires to be the centre of excellence in social science research in the country, and is well on its way towards achieving this goal by developing and harnessing its intellectual capital through a comprehensive programme of research, development, innovation and commercialisation activities."

According to Professor Rosna, intellectual capital comprises the three intertwined and intangible components of human capital, customer capital, and structural capital. Human capital is the knowledge that is found in people, and in the context of the university, this knowledge power resides in the students, academia, and members of management and administrators. Customer capital refers to the invaluable links between the organisation and its diverse range of stakeholders (students, faculty, local and international communities and industry), and structural capital is the knowledge that is found within the organisation and which is handed down from generation to generation (institutional culture).

All these crucial elements for the mutual development of intellectual capital and R&D are embodied in the four Core Strategies (CS) of the UUM roadmap to social science excellence shown below:

- CS1: To develop a culture of excellence in management scholarship
- CS2: To develop holistic students
- CS3: To enhance academic and international activities
- CS4: To practice sustainable financial and resource management

**INTERNATIONALISATION OF R&D:** As the Deputy Vice-Chancellor in charge of academic and international affairs, Professor Rosna knows full well that in light of the acceleration of internationalisation of higher education in a globalised, and as it were, flat world (Thomas Friedman, 2005) there is an urgent need to redouble efforts at enhancing academic and international activities. The internationalisation of students, curriculum, faculty, and R&D has become a top priority at UUM.

As of February this year, there are a total of 2,154 international students from more than 40 countries enrolled in UUM's undergraduate and postgraduate programme of studies. There are more than 80 visiting scholars from all over the world, comprising professors,

associate professors, and senior lecturers currently serving at UUM on a contractual basis.

UUM brings international and real-life experience into the classroom by having visiting scholars and adjunct professors from the industry as part of the teaching faculty. This is in addition

to student visits abroad and internship stints with its local and overseas partners.

**UUM'S INTELLECTUAL CAPITAL ENSURES ITS COMPETITIVE EDGE:** From her intellectual capital vantage point, Professor Rosna is of the view that if

research, innovation, development and commercialisation are viewed within the context of attracting and nurturing, as well as retaining quality intellectual capital, then institutions of higher learning in the country can sustain a competitive edge in the increasingly challenging global higher education landscape.

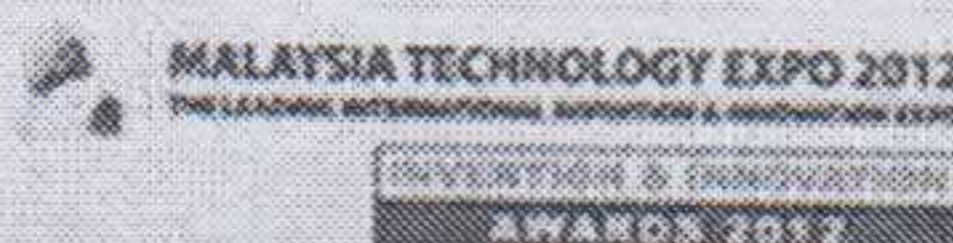
In this regard, UUM is well positioned to realise its aspiration of becoming a social science research university in due course, what with Professor Rosna providing the academic leadership, and the entire UUM collegiate community solidly behind her with their diversity of R&D products.



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**Professor Dr Rosna Awang Hashim,**  
Deputy Vice-Chancellor for Academic and International Affairs

UUM's increasing participation in R&D commercialisation activities.



## List of events

| Invention/Innovation Title                                                                                            | Team Members                                                                                                                                                                 | Category                                   |
|-----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| A Novel Voice Priority Queue Scheduler & Algorithm For VOIP Over WLAN                                                 | Kashif Nisar, Angela Amphawan & Suhaidi Hassan                                                                                                                               | Computer Sciences, Telecommunications      |
| An Ethical Cyber Cafe Model                                                                                           | Huda Ibrahim, Zuliani Ahmad Zukarnain, Zulhairi Md. Dahlan, Rafidah Abd Razak, Wan Rozaimi Sheikh Osman & Nor Idris Yusop                                                    | Practical Novelties, Patents               |
| Automated Data Updating Among Heterogeneous Information Systems On Cloud Computing                                    | Nur Hidayat Harun, Huda Ibrahim & Azman Yasin                                                                                                                                | Computer Sciences, Telecommunications      |
| Balanced Scorecard Framework For IT Project Tender Evaluation                                                         | Fauziah Baharom, Norida Mohd Darus, Haslina Mohd, Maznah Mat Kassin & Norita Md Norwawi (USIM)                                                                               | Practical Novelties, Patents               |
| Brochure Extended: The Mobile Panoramic System                                                                        | Juliana Aida Abu Bakar, Abdul Nasir Zulkifli, Sobihatus Nur Abdul Salam, Koh Mooi Lay, Yap Yi Thong, Chin Yi Mei, Low Chee Keong, Lee Suk Wah & Kowindren Ad. Manjappan      | Publicity, Printing, Packaging             |
| E-Agriculture "Traktor Ploughing Incentive Information System"                                                        | Mohd. Syazwan Abdullah & Norfarida Rashid                                                                                                                                    | Agriculture                                |
| Elite Kids: Learning English With Multiple Intelligence Elements                                                      | Azifin Abdul Mutalib & Yusof Jaafar                                                                                                                                          | Teaching Materials                         |
| Innovation In Green Management Technology Case In Rural Area At Kampung Lentang                                       | Zakiah Othman, Noorhadiqah Azbiya Yaacob, Zakaria Kamantasha, Esdiani Ghazali, Dr. Kamal Ab. Hamid & Nurkamal Muhammad                                                       | Protection of The Environment-Energy-Water |
| Lightweight Service Oriented Architecture (SOA) Based Business Intelligence Portal                                    | Mohd Syazwan Abdullah, Mohammed M Awad, Abdul Razak Saiehy, Abdul Bashah Mat Ali & Azizah Ahmad                                                                              | Computer Sciences, Telecommunications      |
| Managing Children Dental Anxiety Through "Digital Persuader"                                                          | Sobihatus Nur Abdul Salam, Wan Ahmad Jaafar, Wan Yahaya (USM) & Azifah Mohd. Ali (Paediatric Dentistry Specialist, Hospital Sultanah Bahiyah, Alor Setar)                    | Teaching Materials                         |
| Soul of Soil: A Stimulant For Sustainable Paddy Plants                                                                | Siti Noorizam Othman, Zakaria Kamantasha, Noraini Yaakub, Zakariah Othman & Norani Nordin                                                                                    | Protection of The Environment-Energy-Water |
| Road Safety Education (Rose): Utilizing Multimedia, AR and VR In Enhancing Children's Understanding About Road Safety | Abdul Nasir Zulkifli, Nur Fadziha Faisal Mohamed, Nur Afqah Abu Bakar, Juliana Aida Abu Bakar, Yamar Todi Baidowi, Pipin Ramadhani, Muhammad Hizami Aziz & Nur Aqiyin Yahaya | Teaching Materials                         |
| Speech Enabled Virtual Interview Application (SEVIA)                                                                  | Shahrul Azmi Mohd, Yusof, Shahrin Rizlan Mohd, Yusof & Mohd. Fitri Yusoff                                                                                                    | Teaching Materials                         |
| Wireless Speech Controlled Electrical Switch                                                                          | Shahrul Azmi Mohd, Yusof                                                                                                                                                     | Commercial, Industrial & Office Equipment  |
| A Novel Holographic Transmitter                                                                                       | Angela Amphawan & Kashif Nisar                                                                                                                                               | Optics                                     |

