UPM

Synthesis

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Maximising Research Potential through Quality Academic Publishing

- Experts from six prominent global universities share their experiences

" Research is a creative work. Therefore, there is a need for enjoying research, rather than carrying it out as a duty in order to produce excellent and useful output "

S. C. Dutta Roy
Indian Institute of Technology (IIT), Delhi

" Writing takes practice, and can reflect negatively on accuracy of data collection and processing "

Paul Siegel
Virginia Polytechnic Institute & State University, Blacksburg

" Bribery with quite small sums of cash through mini competitions is a great "oiler of the wheels" to get people working together "

Martin Snaith
The University of Birmingham, UK.

" Well conducted experiments with good data will lead to sound manuscripts "

Kadambot Siddique
The University of Western Australia, Perth

" Publication in prestigious journals is one of the best ways for researchers and university to make contributions to society "

David Min
The Ohio State University, Columbus

" English language is a major concern in academic writing; and this is a factor in getting accepted into international journals "

Gary McLean
Texas A&M University, Texas

One of the challenges for UPM, as it strives to become a dynamic, research intensive university, is to facilitate a campus-wide culture where academic publishing is given priority.

It is irrefutable that one of the best ways to get publicly known is through publication. This can be achieved by various means; through print publications like scholarly journals or magazines, as well as via electronic publications such as internet publishing, electronic journals or online bulletins. In short, scientific publication is one of the many alternatives to promote an educational institution, its products and services.

The role of publication too is extended to institutions like Universiti Putra Malaysia (UPM). Good publications help tremendously in upholding the university's image and reputation. Moreover, they (good publications) serve as pride of the university especially through outstanding research publications.

Research publications generally consist of compilation of novel ideas of extensive research or academic work conducted at the university level. They can be in form of thesis, journals, bulletins or yearly research books. Much, though not all, academic publishing relies on some form of peer review or editorial refereeing to qualify texts for publication. Most of them are distributed widely; not only restricted within the university range. Thus, the research is promoted vastly in larger demographic scale through broad circulation.

Research Management Centre (RMC) made further inroads into the global arena. Global standards and norms became the University's watch word. RMC established synergistic partnerships with universities worldwide and taken on strategic roles in global linkages that will now bring a wealth of educational, research and entrepreneurial opportunities for the University. A key role was played by the Centre in forming international linkages by inviting 12 prominent international consultants from prominent universities worldwide to participate in a series of two day international program on publishing research, "Towards Publishing in Journals with Impact Factor", jointly organized in partnership with several faculties at UPM from October 2007 to January 2008. The main objectives of the program were to enhance the research publishing in UPM, to guide the researchers to produce a high quality journal publication, and to build strategic relationships and international networking between UPM researchers and prominent authors/editors internationally.

Producing fundamental experiment data alone are not sufficient in generating good research manuscripts. Therefore, applying high level of journalistic skills is vital for excellent data presentation especially if it is intended to get published in international high impact journals. Hence, international exposure helps to a great extent.

For most researchers whose mother tongue is not English, extensive short course or workshop on technical writing can work wonders. Further, regular in-house seminars are helpful in improving communication in English language. Motivation like cash awards or other kinds of incentives for publication in high impact factor journals are likely to produce good results.

★ This is a Special Issue.

Contents

What's Next

Highlights from the next issue –

- *Spacecraft Attitude Control System*
- *DNA Vaccine*
- *CT Wave Probe*
- *Detection of GMOs*

Photographs courtesy Ahmad Fua'ad Alwi & Nayan Kanwal

Editorial

Realisation of Quality Research Management System

UPM is now, one of the leading research universities in the country that is committed to research excellence and is continuously developing and maintaining culture of research.

Designated as Research University, it is time to look back at our research management system at various levels; departments, faculties, institutes and university's management level wholly.

Let's us scrutinise upon the various processes involved in research such as application of grants, implementation of research, research monitoring, dissemination of research products, patent application and commercialisation of research products. How efficient and effective are the processes, and do they fulfil the expectations of our customers, stake holders as well as funding agencies?

Moreover, how far has our organisation identified and managed the human resources, state-of-the-art facilities along with conducive working environment in order to achieve conformity of research objectives? This requirement includes workspace and modern infrastructure for research, essential equipment, hardware and software, and supporting services and competency skill for personnel involved in the research. I am sure that we are constantly looking forward for better equipment for our laboratory, maintenance support, repair and calibration of the equipment, better infrastructure and facilities or perhaps a special grant scheme under the research university funding.

As far as the quality research management is concerned we need a unique framework to establish a customer satisfaction oriented quality system that can provide a methodology for continuous improvement as well as corrective action in all research activities. Perhaps at the faculty and institute levels, it is not essential to establish research management system of their own. However, at the university level, the system should be managed by the Office of Deputy Vice Chancellor (Research and Innovation).

Most of the faculties are already familiar with Quality Management System (QMS) especially to those that have been certified with ISO 9001:2000. Some even included research management as part of the scope for the certification. Along with the serious commitment in research perhaps all faculties and institutes in UPM should consider to include research management in their scope of certification. The office of Deputy Vice Chancellor (Research and Innovation) is now moving towards the implementation of QMS in research management and hopefully before the year 2008 ends, this office including Research Management Centre (RMC) and Innovation and Commercialization Centre (ICC) will be certified with MS ISO 9001-2000. This is really a great platform to ensure that UPM is practising efficient and effective research management system. This initiative also reflects the full commitment of the University in contributing towards the discovery of knowledge and creation of wealth and nation building.

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Spotlight

Reading a Scientific Paper

In most scientific journals, scientific papers follow a standard format. They are divided into several sections, and each section serves a specific purpose in the paper.

Although it is tempting to read the paper straight through as you would do with most text, it is more efficient to organize the way you read. Generally, you first read the Abstract in order to understand the major points of the work. The extent of background assumed by different authors, and allowed by the journal, also varies as just discussed.

One extremely useful habit in reading a paper is to read the Title and the Abstract and, before going on, review in your mind what you know about the topic. This serves several purposes. First, it clarifies whether you in fact know enough background to appreciate the paper. If not, you might choose to read the background in a review or textbook, as appropriate.

Second, it refreshes your memory about the topic. Third, and perhaps most importantly, it helps you as the reader integrate the new information into your previous knowledge about the topic. That is, it is used as a part of the self-education process that any professional must continue throughout his/her career.

If you are very familiar with the field, the Introduction can be skimmed or even skipped. As stated above, the logical flow of most papers goes straight from the Introduction to Results; accordingly, the paper should be read in that way as well, skipping Materials and Methods and referring back to this section as needed to clarify what was actually done. A reader familiar with the field who is interested in a particular point given in the abstract often skips directly to the relevant section of the results, and from there to the discussion for interpretation of the findings. This is only easy to do if the paper is organised properly.

Finally, I would like to impress upon you that studying a research paper, noting down the results, and applying them to one's own work should not be the end of the exercise. One should ponder over the results once they are assimilated and think deeply about their significance. If you enjoy doing this, new avenues will automatically open up. The key word is enjoyment. Unless it is there, to some degree at least, then there is no point in reading or studying a research paper. One could as well spend his time more usefully in other pursuits which bring enjoyment and satisfaction. RMC

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REGULARS RESEARCH UPDATE

A Computerized Digital Imaging Technique to Estimate Palm Oil Quality Based on Fruit Colour

AwardWinner

Siva K Balasundram, Ahmad Husni Mohd Hanif* and Anuar Abdul Rahim

Typically, palm oil quality is determined in a destructive manner using wet chemical analysis. Such an analysis can be costly, time consuming and error prone. Deterioration of Bleachability Index (DOBI) is a key indicator of palm oil quality. An alternative evaluation procedure that combines consistency and reporting accuracy is desirable. One such method is the use of fruit color as an indicator of palm oil quality.

A recent study showed that fruit color was significantly correlated with palm oil content (Balasundram *et al.*, 2006a). An extension of that work further showed that fruit color was also significantly correlated with DOBI (Balasundram *et al.*, 2006b). Both these studies employed a digital imaging approach to quantify fruit color. Oil palm fruit images were captured using a high resolution digital camera. After imaging, the fruits were manually squeezed for oil and analyzed for total oil content and DOBI using standard laboratory procedures. The images were processed using ILWIS 3.2, an image analysis program, to generate percentage of color based on clustering and unsupervised classification. Each classified image was re-colored to its original color separation, which comprised black, red, orange and yellow components (*Figure 1*). Correlation and stepwise regression techniques were used to determine the relationship between oil content/DOBI and fruit color components.

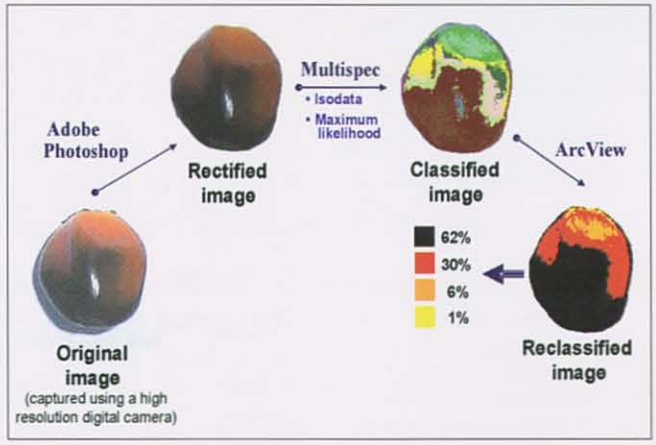

Figure 1: Image analysis protocol to derive colour separation

In this research, an automated technique of quantifying fruit color components based on digital images captured in Joint Photographic Experts Group (JPEG) format was developed. This technique is based on a simple computer program written in Visual Basics and interfaced

■ *Turn to Page Four*

Natural Booster Kit for High Quality Microalgal Production

Award Winner

Fatimah Md Yusoff, M. Shariff, Suhaila Mohamed, Hazel Matias- Peralta and P. Kuppan

A novel Algal Booster Kit consisting of nutrient-rich interstitial water extracted from aquaculture sediment, packed with pure microalgal isolates, provides an easy and reliable method for immediate propagation of microalgal production.

The novelty of this technique is the use of processed and specially treated concentrated interstitial water (in liquid or powder form) rich in phosphorus, nitrogen, silica, essential mineral and micronutrients that boost the production of high quality microalgal species. This novel practice of using aquaculture sediment, which is usually discharged into the environment, also minimizes environmental pollution. Pure microalgal isolates are difficult to obtain and expensive to maintain. The current practice of microalgal production for aquaculture using commercial fertilizers results in contamination and poor quality yields. Microalgae cultured using this novel medium, called natural booster, gives fast growth and are rich in essential amino acids and polyunsaturated fatty acids, especially omega 3 and 6. Concentrated sterilized natural booster in liquid or powder form is packed with pure microalgal inocula. Microalgal culture is easily initiated by diluting the concentrated medium into photobioreactors followed by inoculating algal cells provided with the package.

Microalgal biomass can be harvested for various purposes such as health and functional foods, feed additives, and soil conditioner. Microalgal biomass can also be used for production of natural colouring substances (astaxanthin, phycocyanin, phycoerythrin) and other bioactive compounds for pharmaceutical, nutriceutical and cosmetic industries.

MASgrow™—The Natural Booster Kit

Photobioreactors for microalgal culture

The Algal Booster Kit contributes to the economic development through production of several microalgal related products, and reduces their imports.

The kit has been filed for patent and sold under the trademark of MASgrow™.

Winner of IENA 2006 GOLD Medal Award

GOLD – *International Exhibition of Ideas-Inventions-New Products (IENA 2006).*
Bronze – *IPTA R&D Expo 2005.*
GOLD – *UPM Invention, Research & Innovation Exhibition (PRPI 2004).*

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A Computerized Digital Imaging Technique to Estimate Palm Oil...

■ *From Page Three*

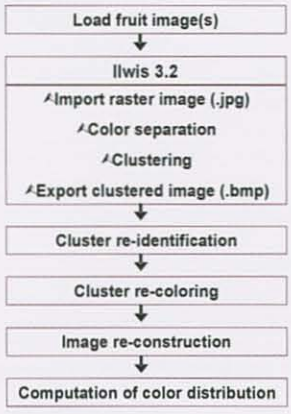

Figure 2: Program flowchart

with ILWIS 3.2 (*Figure 2*). Using the empirical relationship between oil content/DOBI and fruit color, an additional step of estimating % total oil content and/or DOBI values is also made possible. Essentially, the digital fruit image (in JPEG format) serves as the input data to churn out two levels of output sets, i.e., the percentage of color components (black, red, orange and yellow) and the predicted oil content and/or DOBI value.

This technique offers a non-destructive means of assessing palm oil quality and can enable oil yield and/or oil quality mapping to facilitate precision oil palm management. Currently, there is no practical method of mapping oil palm yields/quality due to logistical and instrumentation limitations.

GOLD – *British Invention Show (BIS 2007).*
GOLD – *International Invention Innovation Industrial Design & Technology Exhibition (I-TEX 2007).*
Silver – *UPM Invention, Research & Innovation Exhibition (PRPI 2006).*

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A Long-term Triaxial Filtration Test System

Award Winner

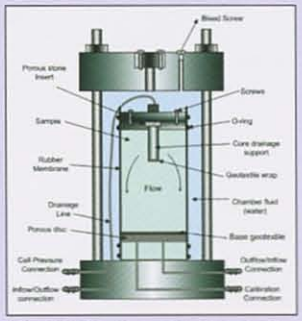
Azlan Abdul Aziz and Husaini Omar

Triaxial Filtration Test Layout

Current practice in selecting an optimal geotextile filter for its intended use involves either the application of diverse site-specific in-isolation criteria or through selected soil/geotextile compatibility tests. Compatibility tests described in the literature are generally performed in simple hard-walled permeameters that suffer from sidewall leakage and incomplete saturation. This research describes the innovation and improvement that can be carried out for a long-term triaxial filtration compatibility test.

A triaxial apparatus set-up is common in most geotechnical laboratories. However, the use of a triaxial set-up to accommodate long-term filtration tests is uncommon, especially when the need to accommodate radial and/or vertical flow to the geotextile is incumbent. All other aspects of shear strength capability have been maintained in the proposed set-up.

The fabricated cell within a triaxial set-up addressed the disadvantages found in simple hard-walled permeameters. A volume change gauge for automated continuous flow rate measurements have been designed and are included in the system. Procedures to accommodate full saturation and scanning electron microscopy (SEM) analysis required for long-term filtration tests are developed and refined. The performance of a long-term filtration test of a silt and a thin melt-bonded non-woven geotextile in the triaxial permeameter system has been assessed.



Triaxial Cell for Permeability/Filtration Test

FEATURES

- An effective and environmental cost saving test system using readily available commercial system but with added value.
- Compatibility selection of soil with various manufactured geotextiles through long-term laboratory filtration test system is rationalised.
- Triaxial permeameter developed can accommodate: i) the application of in-situ field stresses, ii) vertical and/or radial flow, and iii) preparation of specimens for scanning electron microscopy analysis to investigate filtration mechanisms upstream of and within the geotextile.
- Test set-up allows for continuous flow rate measurement and automated data collection of long-term triaxial filtration test

GOLD – *International Exhibition of Ideas-Inventions-New Products (IENA 2006).*

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Oil Scan: Remote Oil Spill Detection, Classification and Trajectory

Award Winner

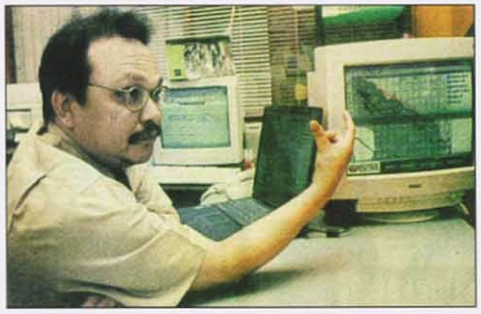
Shattri Mansor, Hamid Assilzadeh, Mohd Ibrahim Mohd, Abdul Rashid Mohamed Shariff

Oil SCAN System is an early warning system to identify vulnerable coastal locations before an oil spill happens. It is developed by a group of researchers headed by Prof. Dr. Shattri Mansor from Spatial and Numerical Modelling Laboratory, Universiti Putra Malaysia.

Monitoring and detecting oil spills as they occur in real times accelerates response time – thus substantially reducing cleanup/remediation costs, and limiting damage to the environment. UPM has developed the optimum solution for this requirement. Oil Scan is a highly effective, cost saving and easy to use.

Oil SCAN is used to:

- Detect and monitor oil spill in satellite imagery.
- Mapping oil spill and estimation of area of spillage.
- Simulate oil spill trajectory.
- Generate and annotate images for area of interest.
- Remotely access information and decision making for oil spill prevention control.



Support Tool allows users to incorporate ancillary data.

Oil SCAN System comprises of two main components, each having a specific use in aiding decision makers:

1) Detection and Classification Tool provides data ingest capabilities, geometric correction, ship and slick detection and analysis tools.
2) Trajectory and Decision Support Tool allows users to incorporate ancillary data such as remote sensing images, scanned oceanographic charts, coastline vectors, ESI maps and response team information for spatial analysis and modelling. It provides a systematic, seamless data management capability and incorporates trajectory modelling for risk assessment and contingency planning. DST outputs consist of custom formatted images, vector and object-based overlays and analysis product that identify and map features and processes specific to the application.

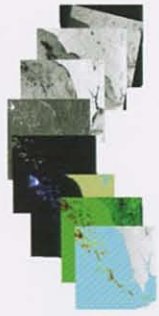


Figure 1: *Radar-based oil spill detection*

Oil scan is able to process any radar imagery to detect and classify oil spill on sea water. Classification of oil spill thickness is based on histogram matching of the spectral signatures unique to differing fuels and pollutants. Different dampening effect from oil spill on radar backscattering is the

■ *Turn to Page Six*

An Enhanced Mobile IPv6 with Multicast Function and Hierarchical Design

Award Winner

Sabira Khatun and Borhanuddin Mohd. Ali

The present invention relates to Internet Protocol version six (IPv6) as a wireless network infrastructure. More particularly, it provides a method to improve the handover delay in Mobile IPv6 so as to offer uninterrupted on-line experience in internet-based applications such as in entertainment, games, video conferencing or video streaming while on the move.

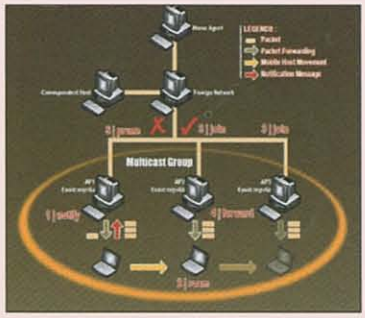


Figure 1: Algorithm of the Invention

Mobile IPv6 (MIPv6) mechanism requires some handover algorithm when it changes its point of attachment in the Internet. This causes mobile IPv6 to incur long delays and high signalling load to the backbone networks and the attendant packet loss. This limitation is due to:

(i) the lack of hierarchy and fast handover mechanism in the mobile IPv6 mobility management, and
(ii) it addresses the micro mobility in the same way as macro mobility while from a recent survey 80% of the mobile users stay in micro mobility environment (i.e. in the same domain under the same Multicast Router).

An enhanced micro mobility handover algorithm is developed on top of mobile IPv6. This invention solves the problem of long delay and packet loss incurred during handover through enhancement of handover management in Mobile IPv6. It integrates hierarchical concept and multicast function. Hierarchical design is used to shield the micro mobility from macro mobility in order to reduce location update signal and signalling traffic within micro level network while multicasting is used to send packets to Mobile Node (MN) through base stations that are near to MN. This reduces handover delay that causes packet lost when MN is roaming.

A representative system (real-time test-bed) comprises of both software and a hardware element has been developed. Through the test-bed, it is shown that handover delay, packet loss and signalling traffic can be improved in average by 90% over the presently used Mobile IPv6.

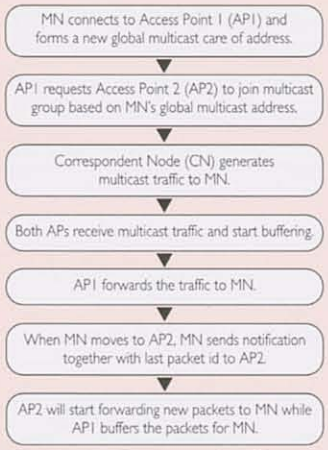


Figure 2: The self-explanatory flow of the test-bed's work procedure

The use of the technology of this invention is expected to guarantee no packet loss while reducing handover delay by 94.32% and packet delay by 84.43% during handover. This product is patent-pending (PI 20062478).

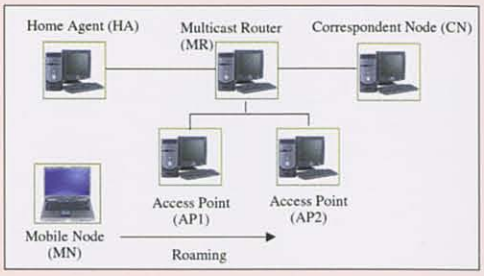


Figure 3: The product in-terms of real-time test-bed

Excellence *Research Award 2006 (UPM/ Malaysian Higher Research Ministry)*
Best Invention – *The Asia-Pacific Rim 2006 Award (INPEX 2006)*
Special Award – *Korea Invention Promotion Association (KIPA), INPEX 2006*
GOLD – *Invention and New Product Exposition, Engineering Invention (INPEX 2006)*
GOLD – *Invention and New Product Exposition, Comp. Software Development (INPEX 2006)*
Bronze – *Invention and New Product Exposition, Telecommunication Invention (INPEX 2006)*
Silver – *Malaysia Technology Expo (MTE 2006)*
Bronze – *UPM Invention, Research & Innovation Exhibition (PRPI 2005).*

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Oil Scan: Remote Oil Spill Detection, Classification and Trajectory

■ *From Page Five*

basis of oil spill detection and classification analysis. A hydrodynamic oil spill model employed using oceanographic and meteorological information were incorporated with Environmental Sensitivity Index (ESI) map in a GIS environment to distinguish oil spill trajectory in the spilled area. Oil Scan is able to simulate oil spill trajectory on default or customized format of time duration and weather data. Data such as wind and current could also be extracted automatically from the same imagery.

Figure 2: Radar image showing oil spill in the Straits of Malacca

Knowledge of oil spill thickness and trajectory will result in more effective direction of oil spill countermeasures, including dispersant application and in situ burning.

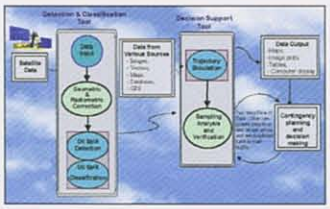

Figure 3: Oil scan system component

In conclusion, the Oil SCAN System is a useful tool to identify, delineate and estimate selected response technologies used in marine oil spill clean up, related to given environmental conditions, changes in oil characteristics and operational considerations in the affected area.

Bronze – *World Exhibition of Innovation, Research & New Technologies (EUREKA 2005).*

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Why Children and Teenagers are Addicted to Computer Games?

NEMD Model— *NORMA™ Engagement Multimedia Design Model*

Normahdiah Sheik Said

Award Winner

Our young teens know that multimedia has great potentials of giving them good multimedia experiences. They are users of multimedia. However, do we ever wonder what our children perceive of the educational courseware and CDs that we design for them today? Most design system is retrofit for children used. We never actually asked children what they like and dislike of the multimedia CDs (especially educational CDs) designed for them. Studies have shown that even big companies found that what they design could not out beat that of game CDs. Thus we have something that is not working right with our educational courseware and CDs that made them 'left it on a shelf' as compared to games CDs as discovered by Cultural Psychologists when studying children using CDs in their homes.

Figure A: Magic School Bus Microsoft Publication: *A picture of a session in Study 1 in a corner of a school library using a grounded theory through a 'discovery led by children method' where the NEMD Model was later developed to its final form.*

This study has found out that, the phenomena of likes and dislikes, of successful and non-successful designs have a lot to do with engagement. Despite creative and innovative design features young teens does not find educational CDs engaging? What was wrong with some and what was so right about others, especially games CDs that made them glued to playing it till they do not want to stop?

We have an obligation to not to deny the right of our children to get these rich multimedia experiences. Yet, at the same time we too need to satisfy restless parents (whilst some still ignorant) of the content of the engaging multimedia CDs played by our children today because we know some lacked moral values and could cause serious negative implications whilst there are others that could educate. Therefore, it is about time we design educational CDs that are engaging too so that what that seems to engross them is something worth the while, that is, engaging yet educational. As the saying goes, if we could not beat them join them.

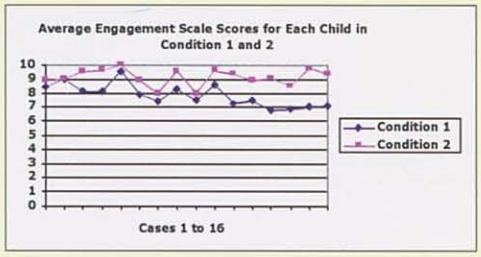
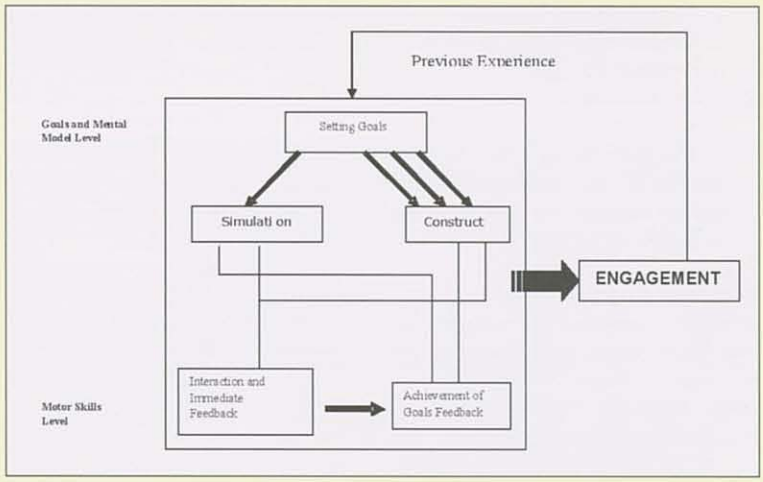


Figure B: *The Engagement Patterns: The data collected through a series of experiments were plotted in order to define engagement patterns whilst subjects interact with the interface to develop this Model.*

"An Engaging Multimedia Design Model", (Norma S. Said (2004)) renamed NEMD Model (NORMA ™ Engagement Multimedia Design Model), is a 6-component theory of engagement developed from a series of experiments on children and young teenagers (ages 9 to 14) interacting with a number of multimedia applications. The model was developed by looking at children's reaction to the interface design features of these applications. A Preliminary Model was developed, tested and redesigned by manipulating the variables of an engaging multimedia application through a series of experiments before the final NEMD Model gets to its present form.

NEMD Model (NORMA ™ Engagement Multimedia Design Model) is a Modeling Theory that could explain some features about user engagement to multimedia application. This model enables us to identify interactive design features in multimedia CDs that work and those that do not work for children. If a design feature could be engaging, for how long does it made children stay engaged? This model was developed from a grounded theory through a 'discovery lead by children' method. In-depth examination of the model could help designers design better educational CDs that are not only engaging but also sustainable educationally in our attempt to build a life long learning digital citizen. From the model, educators could not only create something new but also could foresee how to improve ways to utilize the courseware and educational CDs already in the market or already designed for them to make them more engaging for children use.



NEMD Model (NORMA™ Engagement Multimedia Design Model)
© Normahdiah Sheik Said (2004)

GOLD – *UPM Invention, Research & Innovation Exhibition (PRPI 2006).*
GOLD – *British Invention Show (BIS 2007).*
Bronze – *International Exposition of Research & Inventions of Institutions of Higher Learning (PECIPTA 2007)*

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Research

Facing the Challenges of Research University Workshop *(18 –20 Jan 2007)*

LET'S WORK IT OUT: Tan Sri Dato' Sri Haji Zainul Ariff Haji Hussain urging the participants to face the challenges of Research University.

BON APPÉTIT: Prof. Dr. Abu Bakar Salleh sharing his wisdom on food with everyone!

FOR THE RECORD: The participants of *'Facing the Challenges of Research University Workshop 2007'*.

RMC's ROLE MODEL: Prof. Dr. Zulkifli Idrus receiving the certificate of participation from Prof. Abu Bakar Salleh.

THE POWERFUL DUO!: Prof. Dr. Abu Bakar Salleh presenting a certificate to Prof. Dato' Dr. Mohamed Shariff Mohamed Din.

FOR THE BETTERMENT OF UPM: Mr. Jamsari Tamsir from the Research and Innovation unit also showing his support towards the workshop.

BIO International Convention 2007 *(6-9 May 2007)*

BIO INTERNATIONAL CONVENTION 2007: The delegates from UPM in Boston, USA.

JOVIAL: UPM Chairman Tan Sri Dato' Sri Haji Zainul Ariff Haji Hussain, Minister of Science, Technology and Innovation, Datuk Seri Dr Jamaluddin Jarjis, Prof. Datin Paduka Dr. Khatijah Yusoff and Prof. Dr. Mohd. Ali Hassan

UPM's SUCCESS STORY: What it takes to be a Research University!

KAMI ANAK MALAYSIA!: The proud UPM delegates in front of Malaysian pavilion in Boston.

PROUD TO BE MALAYSIAN: Prof. Dr. Aini Ideris posing in Boston with the Deputy Prime Minister of Malaysia

BIG FEAST!: Prof. Datin Paduka Dr. Khatijah Yusoff with her gigantic lobster on the platter!

THE UPM IRON LADIES!: *(From left)* Prof. Dr. Aini Ideris, Prof. Datin Paduka Dr. Khatijah Yusoff and Prof. Dr. Mahiran Basri.

Happenings

Delegates from UNIMAP and UMP
(22nd March 2007)

A TOKEN FROM UMP: Mutual benefits ahead!

APPRECIATIVE: Prof. Dr. Zulkifli Idrus receiving a souvenir from the representative of UNIMAP, Assoc. Prof. Dr. Uda Hashim

Malaysia Technology Expo (MTE) 2007 *(29-31 Mar 2007)*

INFORMATIVE: Dr. Ahmad Bustamam illustrates his R&D to an attentive visitor

THIS IS WHAT I'M TALKING ABOUT!: Assoc. Prof. Dr. Mohd Adzir Mahdi impressing a visitor with his innovative R&D

SITTING PATIENTLY: Prof Dr Norhani Abdullah from the Biotechnology & Biomolecular Sciences content with her contributions in research!

EDUCATIONAL: Prof. Dato' Dr. Mohamed Shariff Mohamed Din—we need to have role models!

ITEX 2007 *(18 –20 May 2007)*

HISTORIC: Deputy Ministry for Higher Education Datuk Ong Tee Keat *(3rd from left)* officiating I-TEX 2007

DILIGENT: Assoc. Prof. Dr. Raha Abdul Rahim, a busy bee for the day!

CHARMED!: Prof. Dato' Dr. Mohamed Suleiman managed to capture the juries' interest with his R&D!

WE ARE THE CHAMPIONS: UPM gold medallists proudly flaunting their awards. UPM won a total of 19 medals at the I-TEX 2007 exhibition

A BLISSFUL MOMENT: The silver medallists from UPM with their certificates of honour.

THE HARD WORK IS PAID OFF: The joyful UPM bronze medallists and their awards.

INPEX 2007 *(6 –9 June 2007)*

ON CLOUD NINE: Gold medallist Prof. Ir. Dr. Norman Mariun smiling cheerfully as he receives his token of appreciation from Assoc. Prof. Dr. Raha Abdul Rahim.

KEEP UP THE GOOD WORK: Assoc. Prof. Dr. Raha presenting a token of appreciation to INPEX 2007 silver medallist Dr. Shyamala Doraisamy.

Research

BIS 2007 *(17 –21 Oct 2007)*

FLYING HIGH!: Dr. Normahdiah Sheik Said and Dr. Siva Balasundram at Alexandra Palace, London.

IMPRESSIVE!: Dr. Normahdiah Sheik Said, the person behind "NEMD MODEL - Norma ™ Engagement Multimedia Design Model".

WELL DONE: Prof. Abu Bakar Salleh congratulating Dr. Siva Balasundram from the Faculty of Agriculture for his outstanding research contributions.

IENA 2007 *(1 –4 Nov 2007)*

PATRIOTIC: Prof. Abu Bakar Salleh and Prof Mohd Amin Mohd. Soom expressing their nationalism spirit!

LET ME SHOW YOU HOW IT WORKS!: Prof. Ir. Dr. Mohd. Amin demonstrating the function of a "Wire Rope Sensor"!

THROUGH THE EYE OF AN EXPERT: A/P Dr. Ishak Aris elucidating his award winning R&D to the visitors in Germany.

ON TOP OF THE WORLD: Gold medallists of IENA 2007, A/P Dr. Ishak Aris *(left)* and Prof. Dr. Mohd. Maarof *(right)* exhibiting their awards.

ALL FOR UPM!: Prof. Ir. Dr. Mohd. Amin Mohd. Soom and Dr. Norhisam bag silver medals in Germany for their novel research.

ASK THE EXPERT: Prof. Dr. Mohd. Maarof, the creator of innovative *"CT Wave Probe"*.

Down the Memory Lane *(Newsmakers around th*

FULL OF POISE: Prof. Datuk Dr. Nik Mustapha R. Abdullah is honoured with *Darjah Kebesaran Panglima Jasa Negara* (PJN) by DYMM Yang di-Pertuan Agong Sultan Mizan Zainal Abidin

THE UPM ARMY!: *(From left)* A/Prof. Yusof, Tuan Wan Azman Wan Omar, Ta Zainul Ariff Haji Hussain, Prof. Datuk Dr Abdullah and Prof. Dato' Dr. Nik Muhar

ENTHUSIASM: Amongst the participants giving full commitment were Assoc. Prof Fakhru'l-Razi and Dr Nayan Kanwal attending the *Elsevier Malaysia Library Connect Seminar Presentation 2007*

SCRUTINISE THEIR RECORDS: *(from right)*: YB. Dato' Mustapa Mohamed, the former Higher Education Minister, Prof. Datuk Dr. Nik Mustapha, Prof. Ghizan Saleh at the launch of an agricultural product book at UPM recently.

FOR THE RECORD: The Australia and UPM explore

A SMILE KEEPS YOU A MOMENT YOUNGER!: Assoc.Prof. Fakhru'l-Razi Ahmadun and Prof. S.C. Dutta Roy posing for the camera!

WELCOME GI Irene Ng with a s Prof. Fakhru'l and

Happenings

ampus)

Mohd Kamil
i Dato' Sri Haji
: Mustapha R.
Nik Ab. Majid

EQUANIMITY: The recipients of the awards in conjunction with the Sultan of Kelantan's 57th birthday.

EKSPOTANI 2007: A banner portraying UPM's Agricultural roots!

ALL FOR KENAF: YB. Dato' Mustapa Mohamed, the former Higher Education Minister presenting the cheque to Prof. Abu Bakar Salleh

PRICELESS: Professor Datuk Dr. Nik Mustapha and UPM Pro Chancellor, Tan Sri Rozali Ismail during the launching ceremony of *75 Jewels of UPM.*

LT: Siti Razimah Mohd. Nor *(left)* and Salmah
llah *(centre)* receiving the **Elsevier Top Usage**
d 2007 on behalf of UPM from Robert Gorter,
ier's Regional Sales Manager.

MAJOR FACELIFT!: UPM's Only Official Hallmark Journal, *Pertanika* gets a total revamp in 2007!

THE ANCHORS OF RMC!: *(from left)* Prof. Zulkifli Idrus, Assoc. Prof. Fakhru'l-Razi Ahmadun and Dr. Nayan Kanwal — *the image builders!*

ersity of Newcastle,
eration avenues.

SYMBIOSIS: All the representatives look rejoiced after the signing ceremony of MOU between UPM and Massey University, New Zealand.

CAPTIVATING: Prof. Abu Bakar Salleh and Prof. S.C. Dutta Roy during Roy's courtesy visit to RMC.

FULL OF CHARISMA: *(From left)* Dr. Nayan Kanwal, Prof. Irene Ng, the founder and director of the Centre for Service Research of Exeter University, UK, Prof. Abu Bakar Salleh and Assoc. Prof. Fakhru'l-Razi Ahmadun during Prof Irene's visit to UPM in September 2007.

Prof. Abu Bakar Salleh thanked Prof.
nir bag before she left RMC, Assoc.
Nayan in attendance!

MUTUAL BOND: Everybody is in their *chillaxing* mood!

RMC's BIG PLAN!: *Pertanika* a top priority, an agenda during Mr. Ben Ramster's *(centre)* visit to UPM. Ben is the Journals Editorial Manager at Institution of Civil Engineers (ICE), London, UK.

BUILDING OPPORTUNITIES: *(from left)* Assoc. Prof Fakhru'l, Prof. Martin Snaith, Mr. Ben Ramster and Tuan Haji Ghazali

NewsBriefs

Facing the Challenges of Research University

A workshop on *"Facing the Challenges of Research University"*, organised by Innovation and Commercialisation Centre (ICC) in association with Research Management Centre (RMC) and the staff of Research and Innovation (P&I) of Vice-Chancellor's Office was conducted at Mahkota Hotel, Malacca from 18th – 20th January 2007.

The main objective of the workshop was to prepare the implementation of research university action plan for P&I. The objective was inline with the UPM Mission 2005- 2010 (Mission 2, Objective, Strategy 5) statement which is to increase the efficiency and effectiveness of a research university.

The speakers for the four days and three nights' workshop were Tan Sri Dato' Sri Haji Zainul Ariff Haji Hussain and Professor Dr. Shaik Md Noor Alam S.M Hussain. Also present were Professor Dr. Haji Zainal Abidin Mohamed and Professor Dr. Mohd. Shahwahid Haji Othman, who acted as facilitators.

Earlier, the Deputy Vice Chancellor, Prof. Dr. Abu Bakar Salleh pointed out that, the role of every staff member is important in supporting and sustaining the national aspiration. Universiti Putra Malaysia (UPM) has fulfilled the criteria set by the Ministry of Higher Education as one of the research universities and thus it is important to ensure that these criteria are achieved, and are continuously upgraded to maintain the Research University status, he added.

RMC Welcomes Delegates from UNIMAP and UMP

Research and Management Centre (RMC), UPM welcomed 21 delegates from Universiti Malaysia Perlis (UniMAP) and Universiti Malaysia Pahang (UMP) recently.

Scheduled on 22nd March 2007, the visit was represented by researchers and officers from both universities. The main objective of the trip was to gain essential knowledge and information on researches performed at UPM.

All the guests were greeted by Prof. Dato' Mohamed Shariff Mohamed Din, the Director of Innovation and Commercialisation Centre; Prof. Dr. Zulkifli Idrus, the Director of RMC and other officers from RMC along with Encik Jamsari Tamsir, from the Office of the Deputy Vice-Chancellor (Research & Innovation).

Malaysia Technology Expo (MTE) 2007

This year witnessed another Malaysia Technology Expo (MTE) which took place at Putra World Trade Centre (PWTC), Kuala Lumpur from 29th – 31st March 2007. *"Turning Knowledge into Opportunity"*, the theme for MTE 2007; was participated by 13 universities and 7 government and non-government agencies.

Universiti Putra Malaysia (UPM) sent approximately 36 researchers to participate in the exhibition. Their projects and research papers were also submitted during the exposition.

Congratulations to four gold medallists from UPM; Prof. Dr. Mohd. Maarof H.A. Moksin, Prof. Dr. Fatimah Md. Yusoff, Dr. Shyamala Doraisamy and A/Prof. Dr. Noorhana Yahya for their impressive achievements! Prof. Dr. Mohd. Maarof was also nominated for Special Award during the MTE 2007.

In addition, there were thirteen exhibitors who won silver and seven bronze medals. Below is the list of the gold medal winners.

	Research(s)	Project Title
1	Fatimah Md. Yusoff *(Prof. Dr.)*	*Periphyton-Bacterial Complex: A novel System for Improving Water Quality and Shrimp Survival without Water Exchange*
2	Mohd. Maarof H.A. Moksin *(Prof. Dr.)*	*CT Ware Probe*
3	Noorhana Yahya *(Assoc. Prof. Dr.)*	*Observation of Bamboo-Like Carbon Nanotubes via Locally Designed PLAD System*
4	Shyamala C. Doraisamy *(Dr.)*	*Content-based Music Retrieval with N-grams and a Music-friendly Interface*

Greater Opportunities with NATPRO 2007

The 4th Asia Pacific Natural Products Expo 2007 or NATPRO 2007 exhibition was held at Putra World Trade Centre (PWTC), Kuala Lumpur from 29th – 31st March 2007.

UPM sent eighty participants including five researchers to take part in NATPRO 2007; to promote products and researches conducted by the university.

The five UPM researchers involved were Dr. Ahmad Bustamam, Dr. Mohd Ridzwan Abdul Halim, Prof. Dr. Mohd Yazid Abdul Manap, Prof Dr. Anuar Kassim and Prof. Madya Dr. Amin Ismail.

As Malaysia's largest trading hub, NATPRO provides unmatched business opportunities to source and promote herbal and natural products in one of the world's fastest growing market places.

NATPRO is definitely the place right for Asian farmers, manufacturers, researchers, marketers, importers and exporters; an unparalleled opportunity to showcase to the rest of the world the efficacy and reliability of their indigenous products and expertise, and to expand international market boundaries. NATPRO is an excellent place for all involved in the herbal and natural products industry, to build network and share business wisdom and foresight.

Researchers Shine at Research Excellence Award

A night with the stars, a memorable gala night was celebrated on 12th April 2007 at Putrajaya Marriot Hotel to commemorate the recipients of Research Excellence Award (APC) 2006. The event was organised by the Office of the Deputy Vice Chancellor (R&I) in collaboration with Research Management Centre (RMC) and Innovation and Commercialisation Centre (ICC).

The Guest of Honour for the night was Y.Bhg. Dato' Dr. Zulkefli A. Hassan, Secretary- General for Ministry of Higher Education, Malaysia.

There were five categories under these awards; *Publication Award, Commercialisation Award, Young Researcher Award, International Excellence Award and International Special Award.* The winners in each category are presented below. The winners were judged based on their outstanding performance in the year 2006 at both national and international levels.

	Award Category	Recipient	Faculty/ Institute
1	**Commercialisation Award**	Faridah Abdullah *(Assoc. Prof. Dr.)*	*Science*
		Foo Hooi Ling *(Assoc. Prof. Dr.)*	*Institute of Bioscience / Biotechnology and Biomolecular Sciences*
		Mohd. Khazani Abdullah *(Assoc. Prof. Dr.)*	*Engineering*

2	**Publication Award** Science and Technology field	Mohd Adzir Mahdi *(Assoc. Prof. Dr.)*	*Engineering*
		Tey Beng Ti *(Assoc. Prof. Dr.)*	*Institute of Bioscience / Engineering*
3	**Young Researcher Award** Science and Technology field	Mohd Basyaruddin Hj Abdul Rahman *(Assoc. Prof. Dr.)*	*Science*
		Tan Chin Ping *(Dr.)*	*Food Science dan Technology*
4	**Young Researcher Award** Social Sciences and Humanities field	Norhasni Zainal Abiddin *(Dr.)*	*Educational Studies*
5	**International Excellence Award**	Ahmad Bustamam Abdul *(Dr.)*	*Institute of Bioscience / Medicine and Health Sciences*
		Aini Mat Said *(Dr.)*	*Human Ecology*
		Asmah Yahaya *(Assoc. Prof. Dr.)*	*Science*
		Azlan Abdul Aziz *(Ir.)*	*Engineering*
		Barkawi Sahari *(Prof. Dr.)*	*Engineering*
		Fatimah Md. Yusoff *(Prof. Dr.)*	*Institute of Bioscience / Science*
		Hawa Ze Jaafar *(Assoc. Prof. Dr.)*	*Agriculture*
		Kaida Khalid *(Prof. Dr.)*	*Science*
		Megat Johari Megat Mohd. Noor *(Assoc. Prof. Dr.)*	*Engineering*
		Mohamad Pauzi Zakaria *(Assoc. Prof. Dr.)*	*Environmental Studies*
		Muhammad Rezal Kamel Ariffin *(Mr.)*	*Institute for Mathematical Research (INSPEM) / Science*
		Norhafizah Abdullah *(Dr.)*	*Engineering*
		Norhana Yahya *(Assoc. Prof. Dr.)*	*Science*
		Norihan Salleh *(Assoc. Prof. Dr.)*	*Biotechnology and Biomolecular Sciences*
		Renuganth Varatharajoo *(Dr.)*	*Engineering*
		Sabira Khatun *(Assoc. Prof. Dr.)*	*Engineering*
		Shamsul Bahri Hj. Mohd. Tamrin *(Dr.)*	*Medicine and Health Sciences*
		Shattri Mansor *(Prof. Dr.)*	*Engineering*
		Tey Beng Ti *(Assoc. Prof. Dr.)*	*Engineering*
		Wong Shaw Voon *(Assoc. Prof. Dr.)*	*Engineering*

BIO International Convention 2007

UPM sent its two prominent researchers to Boston, Massachusetts, USA to exhibit their products at the BIO International Convention 2007 held from 6-9 May 2007.

Together with UM, USM, and UKM, the partaking of the event was under Malaysian Research University. UPM was represented by Professor Dr. Mahiran Basri, Professor Dr. Aini Ideris and Professor Dr. Mohd. Zamri Saad.
Research brochures, souvenirs and information leaflets related to UPM were distributed during the event at the UPM booth.

BIO Technology Conventional is the word's largest biotechnology event and its members are generally are involved in the research and development of healthcare, agricultural, industrial and environmental biotechnology products.

This year's exhibition managed to attract more than 22, 000 attendees with representatives from 48 states and 64 countries, of which about one-third came from outside the United States.

UPM Sweeps 17 Medals and 2 Special Awards at I-TEX 2007

UPM was in the spotlight once again after sweeping **5 Gold**, **4 Silver**, **8 Bronze** and **2 Special Awards** at the Invention, Innovation, and Technology Exhibition (I-TEX 2007).

As one of the gateways for gathering researchers and fellow inventors who are keen to learn about new Research and Development (R&D) findings, the unforgettable event was held successfully at Kuala Lumpur Convention Centre from 18th – 20th May 2007.

The 19 proud winners received their prizes from Y.B Datuk Ong Tee Keat, the Deputy Minister of Higher Education.

The following are the recipients of the **gold** medals, **special awards** and their innovative researches.

Recipient	Research/ Project Title	Award(s) Received	Faculty/ Institute
Ishak Aris *(Assoc. Prof. Dr.)*	Software System for Detecting Defective Symbols on Micro Chip with Adjustable Readability Level	• Gold • Moscow Russia Special Award	*Engineering*
Mohd. Yunus Abd. Shukor *(Dr.)*	A Composite Enzyme-Based Xeno-Assay Kit for Monitoring Xenobiotics Pollution	• Gold • Malaysian Innovative Product Award	*Biotechnology and Bimolecular Sciences*
Abd. Razak Alimon *(Prof. Dr.)*	Zeo PKC : An Additive to Control Ammonia Production in Poultry Houses	• Gold	*Agriculture*
Raja Noor Zaliha Raja Abd. Rahman *(Prof. Dr.)*	A New Novel Organic Solvent Tolerant Lipase From Bacillus Sphaericus 205y for Industrial Applications	• Gold	*Biotechnology and Bimolecular Sciences*
Siva K Balasundram *(Dr.)*	A Computerized Digital Imaging Technique to Estimate Crude Palm Oil Quality Based on Fruit Surface Color	• Gold	*Agriculture*

UPM Wins 2 Medals in the US

UPM was in the lime light after winning **1 gold** and **1 silver** medal in an exhibition held in Pittsburgh, US from 6th- 9th June 2007.

INPEX is the platform for new products and innovations from around the world that are available for licensing, marketing or manufacturing. This year's exposition managed to gather more than 200 research projects from 13 different countries including the US.

The winners of the 23rd Invention and New Product Exposition (INPEX) which is America's largest invention trade show were gold medallist Prof. Ir. Dr. Norman Mariun from the faculty of Engineering and the silver medallist Dr. Shyamala Doraisamy from the faculty of Computer Science and Information Technology.

VC Receives Datukship Award

Universiti Putra Malaysia's Vice-Chancellor, Professor Dr. Nik Mustapha R. Abdullah was amongst the twenty eight recipients for *Datukship* award in conjunction with the Sultan of Selangor's 61st birthday. The award which carries the title "Dato'" was honoured on 11th December 2006.

In a separate occasion, Prof. Dato' Dr. Nik Mustapha received the award, Ahli Yang Kedua (Dato' Paduka) *Bagi Darjah Kebesaran Setia Mahkota Kelantan Yang Amat Terbilang* (D.P.S.K) *from Sultan of Kelantan in April 2007, and Darjah Kebesaran Panglima Jasa Negara* (PJN) award in June 2007 from His Majesty the Yang Di Pertuan Agong which carries the title "Datuk".

Professor Dato' Dr. Nik Mustapha has been the Vice-Chancellor of UPM since 1st January 2006. RMC would like to take the opportunity to congratulate Datuk Dr. Nik Mustapha for this honour bestowed upon our Vice-Chancellor.

Elsevier's Library Connect Seminar

World's leading publisher of science and health information, Elsevier organised a seminar in Kuala Lumpur on 2nd August 2007. Held at Hilton Kuala Lumpur, the seminar was attended by an estimated 100 participants. Among the attendees were Assoc. Prof. Fakhru'l-Razi Ahmadun, Deputy Director, RMC and Dr. Nayan Kanwal, Executive Editor *(Pertanika* Journals*)* who are in their effort of making Pertanika as Citation International Journal (CIJ). Also present were the representatives from *Perpustakaan Sultan Abdul Samad*, UPM's main library.

The theme for the annual event was *Library Performance Measures*, an area which is close to the hearts of many librarians.

The one day seminar was honoured by three guest speakers; Vicki Picasso, Debbie Booth and Lisa Cotter. The topics covered throughout the day were on how the Research Quality Framework (RQF) and repositories will change the way academic libraries measure and report their performance; and Evidence-based Library and Information Practice (EBLIP) a model to assess libraries which seeks to be grounded in research evidence.

Elsevier staff also took the opportunity to give updates on new developments in ScienceDirect, Scopus as well as share the best practice adopted by libraries globally in promoting their resources.

Towards the closing of the seminar, an award, ***"Top Usage Award 2007"*** was presented by Mr. Robert Gorter, the Regional Sales Manager Elsevier to the UPM library. The award was received by Siti Razimah Mohd. Nor and Salmah Abdullah representing the library.

The Triumphant Ekspo Tani 2007!

Ekspo Tani 2007 organised by UPM Student Representative Committee 2006/2007 was held from 23rd – 30th August 2007 in conjunctions with the Universiti Putra Malaysia 31st Convocation Day.

The exposition which took place at Bukit Ekspo, UPM was officiated by the Chairman, Board of Directors, UPM, Y. Bhg. Tan Sri Dato' Seri Dr. Hj. Zainul Ariff Hj. Hussain on 24th August 2007.

Around 20 UPM prominent researchers from various agricultural fields took part in the event.

Among the activities which ran throughout the 8-day expo were exhibitions from the participated faculties, talks and other general activities. The blood donation campaign was also carried out for 3 days from 27th – 29th August 2007.

Breakthrough: *UPM achieves Research University (RU) Status*

University Putra Malaysia (UPM) is now designated to be one of the four research universities in Malaysia under the Ninth Malaysia Plan (2006-2010). The others three universities are Universiti Sains Malaysia (USM), Universiti Kebangsaan Malaysia (UKM), and University Malaya (UM). With such designation, UPM and the other three premier universities are expected to lead the way in areas of research, inventions and innovations in Malaysia. These research universities are given an additional allocation of RM513 million for research, development and commercialisation activities.

In conjunction with the new status effective 1st September 2007, Professor Dr. Tai Shzee Yew was appointed as the deputy vice chancellor of this new portfolio for UPM, Industry and Community Relations. The portfolio was created by the Higher Education Ministry as part of a move to enhance the university's status as a research institution.

UPM Researchers get Recognition in London

Two UPM researchers were awarded with gold medals during the British Invention Show 2007 (BIS) in England. The exhibition which took place at Alexandra Palace, London was held from 17th – 21st October 2007. There were about 250 inventors from 17 countries who took part in the BIS this year.

A/Prof. Dr. Siva Balasundram from the Agriculture faculty presented his original research on "A Computerized Digital Imaging Technique to Estimate Palm Oil Content and Quality Based on Fruit Colour".

Dr. Normahdiah Sheik Said from the Modern Languages and Communication faculty impressed the jury with her inventive research on "NEMD MODEL - Norma™ Engagement Multimedia Design Model". BIS is known to be Britain's largest R&D expo to showcase the latest inventions, innovations and new technology worldwide.

UPM Continues its Success in Germany

UPM continued its remarkable achievement in Germany recently when four researchers from this prominent university won **2 gold** and **2 silver** medals during the IENA 2007 held from 1st – 4th November 2007 in Nuremberg, Germany.

Ideen-Erfindungen-Neuheiten-Ausstellung (IENA) or International Exhibition of Ideas –Inventions-New Products is an annual international exhibition which allows the inventors around the world to present new and innovative ideas.

Prof. Dr. Mohd. Maarof H.A Moksin and A/P Dr. Ishak Aris, from the faculty of Science and Engineering respectively won a gold medal each for their breakthrough research projects.

Whereas, Prof. Ir. Dr. Mohd Amin Mohd. Soom and Dr. Norhisam Misron, both from the Engineering faculty were the recipients of silver medals.

Yes, we did it Again!

UPM walked away with **9 awards** including a **Special Award** during EUREKA 2007 in Belgium recently. Hosted by Brussels, Belgium, the memorable event was held from 22nd – 25th November 2007.

Innova Energy or EUREKA is the Belgian and international trade fair for technological innovation focused on energy.

There were approximately 150 exhibitors with 420 innovations from 25 countries around the world who took part in this exhibition.

The list of the winners from UPM is given below.

Recipient	Research/ Project Title	Award(s) Received	Faculty/ Institute
Robiah Yunus *(Assoc.Prof. Dr.)*	Short Carbon Fibre Reinforced Polypropylene Composite for Automotive Application	• Gold • Silver • Special Award (Prize of CONCEPTUM, Belgium)	*Engineering*
Norhafizah Abdullah *(Dr.)*	Innovative Environmental Friendly Cyanide-Free Cassava Processing	• Gold • Silver	*Engineering*
Zarina Bibi Ibrahim *(Dr.)*	Efficient Parallel Software for Solving Stiff Ordinary Differential Equations	• Gold	*INSPEM*
Zarina Bibi Ibrahim *(Dr.)*	Parallel 2PB Software for Solving Large Non Stiff ODEs	• Gold	*INSPEM*
Abd Razak Alimon *(Prof. Dr.)*	Controlling Ammonia and Housefly Population in Poultry Houses Through Dietary Manipulation	• Gold	*Agriculture*
Che Roos Saad *(Assoc.Prof. Dr.)*	UGProbio - A Novel Feed Additive for Giant Malaysian Prawn (Macrobrachium rosenbergii)	• Gold	*Agriculture*

Strengthening Research Linkages: *Dutta Roy and Irene Ng's Courtesy Visit*

Dr Nayan Kanwal, the Executive Editor of *Pertanika* Journals in his development efforts to promote the journal to Southeast Asia region and beyond arranged a special meeting of few prominent experts from well-known overseas educational institutions with the Deputy Vice Chancellor (Research & Innovation). Amongst them were Professor Irene Ng and Professor Dutta Roy.

Professor Irene Ng had paid a courtesy visit to the Office of the Deputy Vice Chancellor (Research and Innovation) on 12th September 2007 with an intention of strengthening international linkages between UPM and the University of Exeter, UK.

Professor Irene Ng has recently been awarded the prestigious Advanced Institute of Management Research (AIM) Fellowship on Services. She is the founder and director of the Centre for Service Research, as well as the Head of Postgraduates Studies of the School of Business and Economics, University of Exeter.

Irene is also a consultant for several firms in Europe and Asia and works with several firms in the UK as the Academic Advisor to the Knowledge Transfer Partnership (KTP). Other industrial partners include aerospace engineering companies like Rolls Royce and MBDA. She consults for several firms in Singapore, Malaysia, South Africa, Italy and UK, specializing in value-based service innovation, capacity, pricing and revenue management.

On a separate occasion Prof. Dr. Dutta Roy from the Indian Institute of Technology (IIT) Delhi, India had paid a courtesy visit to the office of the Deputy Vice Chancellor (Research & Innovation) on 26th November 2007.

Dutta Roy is an Indian National Science Academy (INSA) Senior Scientist at the Electrical Engineering Department, IIT Delhi, where he served as a Professor for more than three decades. He is also on the Editorial Boards of a few IEEE and other prestigious international journals and all the national journals in his field.

Both of the visits were greeted by Deputy Vice Chancellor of Research and Innovation, Prof. Dr. Abu Bakar Salleh; Director, RMC, Prof. Dr. Zulkifli Idrus; Assoc. Prof. Dr. Fakhru'l-Razi Ahmadun Deputy Director, Publication Unit, and Dr. Nayan Kanwal, Executive Editor, *Pertanika* Journals RMC.

UPM Receives FRGS for Kenaf Project

UPM had successfully secured RM 700, 000 under the IPTA Fundamental Research Grant Scheme (FRGS) for Phase 1/2007 in the Top-Down Category for its research on *"Good Agriculture Practice for Kenaf Production Using Mechanization as Alternative Crop for Tobacco on Bris Soil"*.

The is a joint venture research project between Malaysia's Plantation Industries and Commodities Ministry (KPPK) and National Tobacco Board (LTN) under the agreement between UPM and KPPK.

The cheque was presented by YB. Dato' Mustapa Mohamed, the Minister of Higher Learning on 9 December 2007 in Bachok, Kelantan.

Treasuring 75 Jewels of UPM

A commemorative book called, *"75 Jewels of UPM"* published by the Alumni Association of UPM was launched at the Banquet Hall, UPM on 10th December 2007 in conjunction with the closing ceremony of the **UPM 75 Years Celebration**.

Launched by UPM Pro Chancellor, Tan Sri Rozali Ismail, the 190 pages book features 75 outstanding UPM academicians in different fields and expertise. It is also a tribute to the alumni of UPM by acknowledging their success stories.

Tan Sri Rozali urged the university to be more aggressive in its research activities as well as to increase the research funds for the benefit of the researchers. "This is one of the many factors that contributed to UPM's successes in becoming a leading research university", he emphasised.

Forthcoming R&D Exhibitions

The forthcoming International and National R&D exhibitions 2008 *(January to June)*

	Exhibition	Date	Venue
1	**MTE 2008:** Malaysia Technology Expo	*Feb 21-23, 2008*	*Putra World Trade Centre (PWTC), Kuala Lumpur*
2	**NATPRO 2008:** Asia Pacific Natural Products Expo	*Mar 27-29, 2008*	*Putra World Trade Centre (PWTC), Kuala Lumpur*
3	**Geneva- Palexpo**	*Apr 2-6, 2008*	*Geneva, Switzerland*
4	**APC:** Research Award for Research Excellence	*Apr 9, 2008*	*Equatorial Hotel, Bangi*
5	**HHIN 2008:** National Intellectual Property Day Expo	*Apr 26-30, 2008*	*Kuala Lumpur Convention Centre (KLCC)*
6	**KIWIE 2008:** Korea International Women's Invention Exposition	*May 8-10, 2008*	*Seoul, Korea*
7	**ITEX 2008:** International Invention, Innovation and Technology Exhibition	*May 9-11, 2008*	*Kuala Lumpur Convention Centre (KLCC)*
8	**INPEX 2008:** Invention and New Product Exposition	*June 11-14, 2008*	*Pittsburgh, USA*

FactFile

For the record

A New Deputy Vice Chancellor for UPM

Professor Dr. Tai Shzee Yew, Deputy Vice Chancellor (Industry & Community Relations), UPM

Professor Dr. Tai Shzee Yew took office on 1st September 2007 as the new Deputy Vice Chancellor for Industry and Community Relations, a new portfolio given by the Ministry of Higher Education.

Prof. Tai received his first degree from UPM in 1980. He attended his postgraduate studies in Australia in 1984 where he obtained Masters of Agricultural Economics from the University of New England. In 1992, he was awarded a doctorate in fisheries and economics from Simon Fraser University, Canada.

He is in-charge of strengthening links between UPM and community and industry for the purpose of knowledge sharing, commercialisation of research products, industry placements for students and members of staff besides ensuring that academic programs meet industry requirements.

Incoming Deputy Vice Chancellor (Academic and International Affairs)

Prof. Khatijah Mohd Yusoff, the new incoming DVC of Academic and International Affairs

Prof. Datin Paduka Dr. Khatijah Mohd Yusoff joined the Chancellery office on 1st March 2007 as the new Deputy Vice Chancellor for Academic and International Affairs to replace Prof Ir. Dr. Radin Umar Radin Sohadi who left UPM to be the Director General of Malaysian Institute of Road Safety Research (MIROS).

Prof. Khatijah received her early education in Penang and later won Colombo Plan Scholarship at La Trobe University, Australia for her tertiary education where she graduated with a First Class Honours degree in Microbiology in 1979. She was then offered the same scholarship to pursue her postgraduate studies where she obtained her PhD in microbial genetics in 1983. She joined UPM in the same year. In 1994, she was promoted to Associate Professor and became a full Professor in 2001.

Her research interest in paramyxoviruses has won her numerous national and international awards. She has filed several patents and trade marks, and currently holds a US as well as Malaysian patent.

In 2006, she was conferred the Royal award "Dato' Sultan Sharafuddin Idris Shah" (D.S.I.S) bestowed by HRH the Sultan of Selangor which carries the title "Datin Paduka".

Outgoing Deputy Vice Chancellor (Academic and International Affairs)

Prof Ir. Dr. Radin Umar Radin Sohadi, the outgoing DVC of Academic and International Affairs

Prof Ir. Dr. Radin Umar Radin Sohadi left the Chancellery office on 31st December 2006 to take charge of a bigger challenge.

As a road safety expert, he is currently the Director-General of Malaysian Institute of Road Safety Research (MIROS). Prof. Radin is a Fellow of the IEM, Fellow of the Academy Sciences of Malaysia and corporate member of the IHT UK and Association of American Automotive Medicine, USA.

Prof. Radin is also the Chairman for Research and Training Standing Committee of Road Engineering Association of Malaysia (REAM), Editor of the IEM journal (two terms), Co-Editor for the Journal of REAAA and has been the Chairman of the Road Safety Standards Committee (TC09) of REAM.

New Deputy Director for Promotion Unit

AP.Dr. Irmawati Ramli, the Incoming Deputy Director, Promotion Unit, RMC

RMC is pleased to have Assoc. Prof. Dr. Irmawati Ramli as the new Deputy Director of Promotion Unit with effect from 1st September 2007. She replaced Assoc. Prof. Dr. Raha Abdul Rahim who left RMC on 1 September 2007 to concentrate on her research efforts at the faculty.

Dr. Irmawati received her BSc. (Hons.) in Chemistry from University Pertanian Malaysia (UPM) in 1994. Later, she pursued her postgraduate study in England at the University of Manchester Institute of Science and Technology (UMIST) and received her PhD in Chemistry in 2000. Since then, she served as lecturer at Universiti Putra Malaysia (UPM). Through out her career, she had published more than 80 publications in refereed journals, proceedings and abstracts. In 2004, she was attached with Catalysis Research Centre, Hokkaido University and Instituto Tecnologia Quimica, UPV-CSIC, Valencia in 2007 for her research attachment.

This inspiring woman was also awarded Excellent Scientist Awards by the Faculty of Science in 2004 and 2005, and by UPM in 2004.

With exceptionally outstanding academic and research profiles, RMC anticipates Dr. Irmawati Ramli will play one of the main key roles at the centre. Thus, RMC wishes her all the best for this new responsibility!

The Outgoing Deputy Director of Promotion Unit

AP.Dr Raha Abdul Rahim , the Outgoing Deputy Director, Promotion Unit, RMC

RMC wishes to express appreciation to Assoc. Prof. Dr. Raha Abdul Rahim for her contributions to RMC. The memories with her will be treasured by all the staff of RMC!

Dr. Raha Abdul Rahim joined as the Deputy Director of Promotion Unit, RMC in April 2005. She left the Centre on 1st September 2007 to be the Head of Department of Cell and Molecular Biology at the Faculty of Biotechnology and Biomolecular Sciences.

R&I and RMC welcome the following new faces to join its energetic squadron!

1 ***Norlidar Mohd. Adnan***, Assistant Admin Officer, Research & Innovation Unit
2 ***Sarina Mad Suri***, Admin Assistant, Research & Innovation Unit
3 ***Hamizan Wasoh@ Mohamad Isa***, Administration Officer, Research Grant Unit
4 ***Shamiza Sharif***, Assistant IT Officer, Knowledge Management Unit
5 ***Suhail Hazwan Suleiman***, Admin Assistant, Research Grant Unit
6 ***Shahlizah Sahul Hamid***, Publication Officer, Publication Unit
7 ***Lailatul Zuraini Suhim***, Assistant Publication Officer, Publication Unit

The centre also wishes to take this opportunity to thank the following individuals who have either been relocated within the university or left the Centre.

8 ***Junainah A. Manan***, Admin Assistant (Secretarial), RMC
9 ***Low Ying Ying***, Assistant Publication Officer, Publication Unit

Read this – a call for contributions!!

If you have any contributions comprising feature articles or research write-ups that you would like us to publish in the esteemed columns of Synthesis or any suggestions that you may wish to make for the forthcoming issues, please send them to: The Managing Editor, Synthesis, Publication Unit, Research Management Centre, 4th Floor, Administration Building, 43400 UPM, Serdang, Selangor, Malaysia or via the Internet to ndeeps@admin.upm.edu.my or rschinfo@admin.upm.edu.my

The editor reserves the right to edit articles for clarity and space before publication.

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JSSH deals in research or theories in social sciences and humanities research with a focus on emerging issues pertaining to the social and behavioural sciences as well as the humanities, particularly in the Asia Pacific region. It is published twice a year in **March** and **September**.

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Pertanika invites you to explore frontiers from all fields of science and technology to social sciences and humanities. You may contribute your scientific work for publishing in UPM's hallmark journals either as a ***regular article***, ***short communications***, or a ***review article*** in our forthcoming issues. Papers submitted to this journal must contain original results and must not be submitted elsewhere while being evaluated for the Pertanika Journals.

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ndeeps@admin.upm.edu.my
www.rmc.upm.edu.my/pertanika

From the Innovation & Commercialisation Centre (ICC) desk...

Do Prior Art Search Before Filing Patent

What is Prior Art?

Prior art refers to scientific and technical information that exists before the effective date of a given patent application

Prior art may include;

- Previous patents
- Trade journal articles
- Publications (including data books and catalogs)
- Public discussions (conference and seminar)
- Trade shows
- Brochures
- Products, devices & equipments

Why to Search for Prior Art?

Prior art search will help you to:

- understand your competition
- avoid patent infringement
- write your patent application
- learn more about your field of invention
- Save the cost of patenting process

Where to Search for Prior Art?

1. United States Patent and Trademark Office (The USPTO)
   - http://www.uspto.gov/patft/index.html
   - Covers issued and published U.S. patents from 1790
2. European Patent Office
   - www.espacenet.com
   - Contains patents from all over the world
3. Intellectual Property Office of Singapore
   - http://www.surfip.gov.sg/
4. Patent Cooperation Treaty Application (PCT)
   - http://www.wipo.int/pctdb/en/search-adv.jsp
   - Contains published PCT applications dating back to 1978

How to Search for Prior Art?

An on-line prior art search can be done by a keyword search
Keyword search

- List the keywords that you would use to describe the invention
- Think of all possible aspects of the invention and choose keyword that describe each aspect

Note:
The quality of a keyword search will depend on the appropriateness of keywords selected

SPIN-OFF

ECOCILLUS

ECOCILLUS (M) Sdn. Bhd.

Dr. Abu Bakar Sade
Executive Director
Ecocillus (M) Sdn. Bhd.

- An R & D status biotech start up company involved in biomolecular and sciences based products and services.
- Established on 29 December 2005
- Current activities – business development for the commercialisation of Triomic and BioCarrier Technologies in partnership with UPM scientist.
- Achievement – has been approved by MIDA as an R & D status company (MIDA's Reference: 170/11119/0002/0001/ACI)

Ecocillus (M) Sdn. Bhd. (605306-U)
73, Jalan BK 4/2, Bandar Kinrara, 47100 Puchong
Selangor Darul Ehsan
Tel : 019-382 7206

Researcher:

20% Equity

Prof. Dr. Raha Abdul Rahim
Fac. of Biotechnology & Biomolecular Sciences

Company

Orchid Life Sdn. Bhd.

Abd Razak Mohd Isa
Managing Director
Orchid Life Sdn. Bhd.

- Is a biotechnology based company backed with a strength in R&D and technology capabilities from Universiti Putra Malaysia.
- Established on 1 December 2006
- Current activities – The Company's farm is located in Sg Buloh and the R&D activities are conducted in UPM. The company is also in progress of applying additional Seed Fund amounting to RM2.5million from Biotech Corp.

Mustadza Muhamad

- Achievement –BioNexus Status Company by Biotech Corp on 30th Oct 2007. The company eligible for Bill of Guarantees only for BioNexus Status Company and Technology Garage Fund by MTDC on 9 July 2007

OrchidLife Sdn. Bhd.
Lot 85 Kg Melayu Sg Buloh , 47000 Sg Buloh
Selangor Darul Ehsan
Tel : 012-221 9105

Researcher:

20% Equity

Prof. Dr. Maziah Mahmood
Fac. of Biotechnology &
Biomolecular Sciences

PALM GEN Sdn. Bhd.

Producing the Best Breed Through Genetics

Haji Ridzuan Ahmad
Managing Director
Putra Al-Mawashi
Genetic Sdn. Bhd.

- Putra Al-Mawashi Genetic Sdn. Bhd. is a joint venture partnership with UPM will work in the field of biotechnology to produce the following products and services:
  1. Frozen Bull semen
  2. Frozen embryos
  3. Sexed Frozen Semen
  4. Life animal of high genetic.
- Established on 23.01.2007
- Current activities – producing the frozen semen straw and will embark on the technology application on Artificial Insemination (AI) and Embryo Transfer (ET).
- Achievement – Malaysian Technology Development Corp (MTDC) grant under CRDF 3 RM 500,000.00

Putra Al-Mawashi Genetic Sdn. Bhd.
8-2, Jalan Wangsa Setia 3, Wangsa Melawati
53300, Kuala Lumpur
Tel : 019-240 7454

Researcher:

20% Equity

Assoc. Prof. Dr. Wahid Haron
Fac. of Veterinary
Medicine

Synthesis

BackIssues

DECEMBER 2005 — *Issue 11, 4th Quarter*

Editorial: A Reflection of Varsity Strength
Spotlight: UPM: Great Expectations _ Making of a Research University
Research Highlight: A Premier Research University- Future Directions

Regulars
- Double Antibody Sandwhich Enzyme Linked Immunosorbent Assay Kit for Infectious Bursal Disease
- Natural Food Colourant from Petals
- Process and Production of Novel All Natural Sunscreen Agents
- Amplifluor Universal GMO Detection System
- The Novel Feed Additives Produced by Beneficial Lactic Acid Bacteria
- AssessUrBook™

Feature
- Unmanned Aerial Vehicle (UAV) Projects in University Putra Malaysia

Research Happenings
- British Invention Show 2005
- EXPO R&D IPTA 2005
- Vice-Chancellor's Fellowship Awards 2005
- Down the Memory Lane—Newsmakers around the Campus

MARCH 2006 — *Issue 12, 1st Quarter*

Editorial: Managing our Success
Spotlight: Towards a Research University
Research Highlight: UPM focuses on High-technology Agriculture— Professor Abu Bakar Salleh speaks his mind.....

Regulars
- Biochemical Markers for Resistance and Susceptibility to Fusarium Wilt Disease in Bananas
- COMBAT Armor™
- Dual Frequency Multi-purpose Microwave Liquid Moisture Sensor
- Educational Software and Textbook: Teaching and Learning University Introductory Calculus
- Dynamic Rate-based Virtual Clock Scheduler for Output Buffered IP Switches

Feature
- Malaysian Socio-Technical Disaster Model and Operational Guide

Research Happenings
- UPM Research Awards 2006
- Malaysian Technology EXPO 2006
- Expo Industri Asas Tani (EIAT 2006)
- Down the Memory Lane—Newsmakers around the Campus

JUNE 2006 — *Issue 13, 2nd Quarter*

Editorial: UPM Invention & Research Exhibition 2005
Spotlight: Towards R&D Commercialisation
Research Highlight: Pushing Research to a New Level – Rationalisation Exercise: Why do we from Research Institutes in the University?

Regulars
- Mesocarp-Specific Promoter for Oil Palm Genetic Modification
- BANG SYSTEM™ – Design and Commissioning of UPM Ballistic Automated Network Gun Systems for Ballistic Studies
- Direct Fermentation of Sago Starch to Various Commercial Products
- SaTri-A Gold
- The Human Security System (S 3000)
- Synthesis and Fabrication of NiZnCu ferrite Cores via Sol-gel Technique
- FluReal H9N2 Check, a Rapid Detection and Sub-typing Kit for Influenza Virus

Research Happenings
- I-TEX 2006
- National Intellectual Property Day (Expo Hari Intelek Negara 2006)
- Geneva-Palexpo 2006

Reportage
- NewsBriefs
- FactFile

SEPTEMBER 2006 — *Issue 14, 3rd Quarter*

Editorial: UPM continues its persuit of excellence in education and research
Spotlight: University Rankings
Research Highlight: A New Centre to Promote Technology Transfer and Commercialisation – Innovation and Commercialisation Centre

Regulars
- Detection of Microsatellite Loci in Rhinoceros Beetle Oryctes Rhinoceros Using the Randomly Amplified Microsatellites (RAMS) Method
- Carbon Dioxide Enrichment Technique for the Lowland Controlled Environment System
- MitsozymeTM: Natural Enzyme Supplement for Poultry
- LaSt 24: A Novel Nanocomposite -Based Controlled Release Formulation of Latex Stimulant
- MBzyme: Nanobioterial as Catalyst for Green Organic Syntheses
- Cardamonin: a Drug-like Phytochemical with Anti-Inflammatory and Immunomodulatory Properties Research

Happenings
- Biotechnology Asia 2006
- Agrobio Exhibition 2006
- IPTA R&D Roadshow 2006
- INPEX International Show 2006

Reportage
- NewsBriefs
- FactFile

DECEMBER 2006 — *Issue 15, 4th Quarter*

Editorial: Managing Knowledge
Spotlight: Nation Building- the Role of Universities
Research Highlight: A New Centre to Promote Technology Transfer and Commercialisation – Innovation and Commercialisation Centre

Regulars
- King Grass (hybrid Pennisetum) Silages- Quality and Digestibility
- Improvement Technology for Cocoa Butter Extraction Using Supercritical Fluid
- Trans- Free- Palm- Based Fluid Shortening
- Bluetooth Smart Remote Control and Sensor System (BLUESS)
- RAWAT: Rainwater Harvester
- The Fabrication and Comparison of NiZn Ferrite Cores via Sol-gel Technique and Solid State Reaction

Happenings
- NATPRO 2006
- PRPI 2006

Reportage
- NewsBriefs
- FactFile

MARCH 2007 — *Issue 16, 1st Quarter*

Editorial: Indicators of Research University Performance
Spotlight: Web Presence & Development
Research Highlight: Towards World-class University- What does it take to be a prestigious research institute?

Regulars
- New Materials for our Industries: PANGIUM EDULE REINW. (Kepayang)- Any Takers for Development of Products?
- NiMFerit™: Formulation- Tailoring of the Ni- Mg-Ca-Co-Cu-Zn-Fe Ferrite System to Attain Extremely Low Magnetic-Energy Loss for High-Frequency Application
- The Adoption of Econet: The Internet-Based Malaysian Ecotourism Network and Site Rating Expert System
- RF Coaxial Cavity for Ignition
- Developing Ergonomics Seat for Commercial Vehicle in Malaysia: A Concurrent Approach
- A Family of Parallel Explicit Group Iterative Algorithm on Shared Memory Multiprocessors (SMPs) Architecture

Happenings
- IENA 2006
- BIS 2006
- MAITREX 2006

Reportage
- NewsBriefs
- FactFile

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