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RESEARCH
INVENTION
INNOVATION &
DESIGN

7 - 8 NOVEMBER 2012

DEWAN TAMING SARI
UNIVERSITI TEKNOLOGI MARA
KAMPUS ALOR GAJAH
MELAKA

innovation for sustainable growth



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Abstracts

Invention Category

Innovation Category

Design Category

Exhibition Concept

Sponsorship

Supported Institution

Acknowledgement



WELCOME MESSAGE

Assalamualaikum wbkt and Salam One Malaysia

First of all, I would like to congratulate the Research, Industrial Linkages and Alumni Melaka for yet another successful organization of the Research, Invention, Innovation and Design (RIID) exhibition 2012.

This competition and exhibition is the fourth effort by the Research, Industrial Linkages and Alumni in exhibiting the outcomes of research, invention and innovation by our own versatile lecturers and students and also participation from other IPTAs, IPTS and Schools. I believe that this exhibition is definitely a good avenue for them to participate actively and progress collaboratively in the field of innovation and research.

I am confident that the Research, Industrial Linkages and Alumni in the Melaka campus will continue to address the various challenges that we are constantly facing with a view towards multidisciplinary solutions. Hence, the present exhibition with the theme 'Innovation for Sustainable Growth' is appropriate, and I am certain that this exhibition will bring about more collaborative research and publication.

I therefore would like to take this opportunity to extend a big 'Thank you' to the organizing committee of Research, Invention, Innovation and Design (RIID) 2012 and each and everyone who has made this exhibition a reality. I wish all researchers, lecturers and students a meaningful and enriching experience in coming up with new and innovative inventions. I wish to end with a note of thanks to the Research, Industrial Linkages and Alumni for a job well done.

Yours sincerely,
Y.Bhg.Prof Madya Dr Mohd Adnan Hashim
Rector
Universiti Teknologi MARA Melaka
November 2012

BACKGROUND OF PENYELIDIKAN, JARINGAN INDUSTRI & ALUMNI (PJI&A)

PJI&A established in April 1980, started as the Research Management Unit (RMU) or IRDC and was formerly known as the Planning, Research and Development Centre. However in September 1987, IRDC was restructured with its heightened importance in research and consultation in UiTM and was divided into two units, Research and Consultancy Centre (RACC) and Planning and Evaluation Unit. This centre was then renamed Research and Consultancy Bureau in 1994 and on 15 July 2003 it became Institute of Research, Development and Commercialisation (IRDC).

With the mooring of the Deputy Vice Chancellor in March 2008 to take over the intellectual property and commercialisation portfolio, IRDC was given the responsibility to maximise innovation and increase the number of research which will later be published in high impact journals. Ensuing this, on 31 July 2008 IRDC became the Research Management Institute (RMI) to synchronise with UiTM's aspiration to become a Research University that will develop innovation activities and new research. In branch campuses RMI is known as RMU. The department of PJI was officially established in 2009 headed by its Deputy Director, Associate Professor Dr. Roimah Omar. Under her guidance, Invention, Innovation and Design (IID) started with the RIID showcase in August 2009 and this was followed by the first IID exhibition and competition in October 2009.

PJI&A is mainly responsible to manage, monitor and facilitate researchers in conducting their research in the area of science and technology, management and social sciences. It also provides consultation services to researchers and assisting them in their research claims. PJI&A also conducts seminars and workshops to encourage, motivate and train the academic and non-academic staff in research and consultation, securing research grants and projects, to manage good financing and also manages entrepreneurial and alumni activities.

Objectives

- To promote world-class research.
- To administer, coordinate and provide service for research development, consultation and research publications.
- To provide assistance in exploring new subjects and identify niche area of interest.
- To disseminate information and provide ample training in research, consultation and publication of research.
- To disseminate information and provide ample training in research, consultation and publication of research.
- To provide related service through the latest technology.
- To assist in research publications in high impact journals.

Vision

- To become the leading administrative centre for research, development, consultation and world-class research publication.

Mission

- To enrich the academia, creative ability and innovation through quality service.

INTRODUCTION TO RIID 2012

Innovation activities can be considered as an important mechanism for the nation's progress. RIID2012 Melaka anchors on the objective to produce individuals who are capable of formulating creative ideas and be highly competitive. UiTM is an institution which primarily puts emphasis on an innovative culture among its staff and students to form a critical thinking society, possessing creativity skills and elevated knowledge. Aligned with the government's aspiration to cultivate innovation, UiTM Melaka has taken the initiative to organise RIID2012 Melaka Innovation Festival.

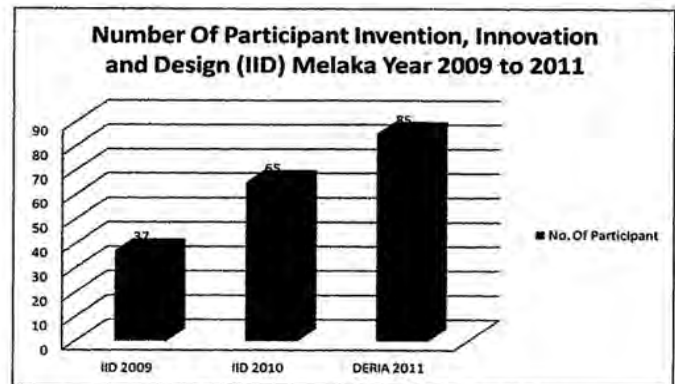
To raise the status of local universities globally or among the KPI which has been determined by the Ministry of Higher Education (MoHE) and to achieve the status of Research University, the total number of innovation being produced by a university is of utmost importance. Innovation is a vital catalyst to attain the status of a developed nation in the year 2020. Parallel to this, UiTM Melaka is carrying the nation's aspiration through innovation programmes wherein the staff and students' creativity and innovative abilities could be brought to greater heights through competitions and innovation exhibitions held every year.

To consistently produce innovation, IID competitions can act as one of the ideal channels or medium to ensure students, lecturers, administrative officers and the public to exhibit or display their products or prototype as well as new ideas that contain commercial values. The first IID held at UiTM Melaka level took place in 2009. It successfully exhibited more than 37 products. To continue the innovation culture within the campus community, IID competitions should be maintained.

The number of participation showed an encouraging response with 45 products being exhibited in the following year. The third IID known as DERIA 2011 was given a new facelift with an estimation of nearly 100 products that competed. Therefore, the Research, Industrial Linkages and Alumni Division (PJI&A) suggested organising the 4th IID in 2012. The IID competition this year is known as RIID2012 with the theme 'Innovation for Sustainable Growth'. The theme is chosen as innovation is believed to be the main impetus for growth that would spearhead the nation towards becoming a high income developed nation.

Therefore, the Research, Industrial Linkages and Alumni Division (PJI&A) has suggested to organise the 4th IID in 2012. The IID competition this year is known as Riid2012 with the theme '*Innovation for sustainable growth*'.

R= research, I = invention, I= innovation, D= design = RIID



1st IID: LET'S IID 2009

Gold Medal

1. Asmaradana (Video clip) by FSKM
2. Pinggan Rasmi Istana Melaka by FSSR
3. Rekabentuk Maskot dan Logo SUKMA 2010 Melaka by FSSR
4. eXtention-C by FPN
5. CD Interactive Cartoons on Sexual Education for Young Children by FSSR
6. Grammar Mania – A Game For The Language Classroom by FPEND
7. Dara Pujaa (Short Film) by FKPM
8. Kalkulator Zakat Mudah Alih @zakatfon by IKAZ
9. Smart Easel by FSSR
10. Dhobi Wallah – The Last Laundrette Mohican (Documentary) by FKPM
11. e-Inventori ICT System by FSKM

Silver Medal

1. Teguh 11 by FSSR
2. Songket Rasmi Negeri Melaka by FSSR
3. Workout with English by FSKM
4. Smart Drawing Board by FSSR
5. i-Masjid by IKAZ
6. Photo Gallery 2009, The Good, The Bad and The Ugly:Journey of Emotions (Sweats of Heart;s Desire) by FKPM
7. Dulang Bekas Kuih Raya 1 by FSSR
8. MyPJI-Portal by FSKM
9. Academic Predication Model Neural Network for Computer Sciences Students in UITM by FSKM
10. Mobile Archery Scoring System by FSKM
11. e-Aduan ICT System by FSKM

Bronze Medal

1. Sistem e- GL Staf by FSKM
2. Postcards as Affective Image Makers for Melaka Tourism by FSSR
3. Impact of Economic Growth on Air and Water Pollution in Malaysia by FPP
4. Snakes and Ladders (Literature) by FPEND
5. Reka Bentuk Komunikasi dalam Penjenamaan Semula Identiti dan Imej Lokasi Pelancongan di Negeri Melaka (Melaka River Cruise) by FSSR
6. Photo Gallery 2008, The Good, The Bad, The Ugly: Journey of Emotions (Life) by FKPM
7. Malaysian MotoGP 2009 Booklet by FFPM
8. Penghasilan Functional Sculpture/Décorative Objects/Design Object (Terendak Lampu Hiasan) daripada Logam Terpakai/Terbuang dengan Teknik Kimpalan Beracuan by FSSR
9. The Sale and Purchase Agreement: Creating and Innovative Glossary to Make It More Comprehensive
10. KOMIK: Catatan SI MAHASITUA by FSSR

Faculty with the Highest Number of Participation Category: FSSR

Best Booth Category: Asmaradana (Video Clip) by FSKM

Best Poster Category: Kalkulator Zakat Mudah Alih @zakatfon by IKAZ

DERIA 2011

Best Interactive Category:

2nd Group, Noor Suhaida binti Aziz / Nornadia binti Jonari, UiTM Melaka

Best Young Inventor Category:

QI FIND (Qiblat Finder for the Blind)
Mohd Alif bin Mansor (L), Sek.Men.Keb. Teknik Kuala Lumpur

Best Invention Category (Open):

Welca Trolley OK2011
Mohd Firhan bin Morni (L), UiTM Shah Alam

Best Invention Category (Student):

Automatic Observer Vehicle
Zulkarnain bin Jamak (L), Politeknik Ungku Omar

Best Innovation Category (Open):

Smart Ampoule Breaker
Amiruddin bin Mohd Yusuf (L), Hospital Segamat

Best Innovation Category (Student):

PSC: A Public Sector Comparator (PSC)
Khairizam Ismail (L), UiTM Shah Alam

Bronze Medal

Best Design Category (Open):

Portable Stool for "Home n Garden"
Zulkarnain bin Hassan (L), UiTM Perak

Best Design Category (Student):

Jelajah Melaka-Muar
Nasya-Nani bt Mat Isa (L), UiTM Melaka

Best Booth:

Pesanan Khidmat Masyarakat 'Kawan'
Muhammad Azril Izuan bin Ramlan (L), UiTM Melaka

Best Poster:

QI FIND (Qiblat Finder for the Blind)
Mohd Alif Mansor (L), Sek.Men.Keb. Teknik Kuala Lumpur

Diamond Award:

Smart Ampoule Breaker
Amiruddin bin Mohd Yusuf (L), Hospital Segamat

PROGRAMME TENTATIVE

Date : 7 November 2012 (Wednesday)

| TIME | TENTATIVE |
|----------|--------------------------------------|
| 8.15am | Registration |
| 9.00am | Exhibition and Judging (Session |
| 11.30am | Cultural Presentation |
| 12.00pm | Lucky Draw I |
| 1.00pm | Rehat / Makan Tengahari |
| 2.30pm | Pameran & Perjurian (Sesi II) |
| 3.00pm | Mind Challenging Game |
| 4.00pm | Lucky Draw II |
| 5.00pm | Adjournment |
| 5.10pm | Registration for Tour of Melaka City |
| 5.30pm - | Optional : River Cruise Melaka/ |
| 11.00pm | Jonker Street/Taming Sari |

Date : 8 November 2012 (Thursday)

| TIME | TENTATIVE |
|---------|--|
| 8.15am | Registration |
| 8.30am | Arrival of Guest Speaker |
| 8.35am | Breakfast |
| 9.00am | Genovasi Briefing |
| 10.00am | RIID 2012 Exhibition |
| 11.00am | Lucky Draw 3 |
| 12.30pm | Break/ Lunch |
| 2.00pm | Innovation Talk by Animosta Studios S/B |
| 3.00pm | Arrival of PM Zulkifli Abdul Majid (Director of RIBU) |
| 3.20pm | Welcome Prosession for VVIP, Rector and Deputy Rector UiTM Melaka |
| 3.25pm | National Anthem and Wawasan Setia UiTM |
| 3.30pm | Doa Recital |
| 3.40pm | Opening Presentation |
| 3.45pm | Speech by Chairperson of RIID 2012, UiTM Melaka |
| 3.50pm | Speech by Rector |
| | Official Opening and Closing bby PM Zulkifli Abdul Majid (Representing Assistant Vice Chancellor (Research) , RMI UiTM Shah Alam) |
| 4.00pm | |
| 4.20pm | Launching Gimmics – Multimedia Presentation |
| 4.25pm | Visit to Exhibition Booths |
| 4.40pm | Press Conference |
| 5.00pm | Award Presentation |
| 5.35pm | Closing Ceremony |
| 5.40pm | Photograph Session |
| 5.45pm | Tea Break |

COMMITTEE RIID 2012

■ Certificate

Ustz Husnul Rita bt Aris
Pn Siti Hajar Abd Aziz
Noofazreen Binti Mohd Aris
Mariam Farhana
Adibah Binti Bahori
Pn Zaiton Hasan
Cik Rabiah Ibrahim

■ Audio Visual and ICT Equipment

Puan Rohayu Hj. Ramli

■ Refreshment

Ustazah Noraini Ismail
Vani a/p Tanggamani
Siti Anis Nadia binti Abu Bakar
Puan Siti Rohana binti Daud

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Zarina Begum Ebrahim
Nurul Ain Mustakim
Muna Kameelah Saudi
En. Mohd Hatta Mohd Yatim

■ Logistic and Tour

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Tania Maria Tangit
Noor ibtisam Abdul Karim
Abu Zaireen Abu Hassan
Norfaezah Khalet

■ Montage

YM Tengku Shahril Norzaimi Tg. Hariffazillah

■ Video and Photographer

Shahril Anuar Abdul Ghalim

■ Innovation Talk

Pn Ilya Yasnorizar Ilyas
Nadia bte Abdullah

■ Food Stall

Prof Madya Zaihan Abd. Latif
Puan Nor Hamiza Mohd Noor

■ Judges

Prof Madya Dr Maheran Katan
Dr. Shafinar Ismail
Pn Alisa Ibrahim
Pn Suhailah Kassim
Ainaa Idayu binti Iskandar
Azlin Zanariah binti Bahtar
Nur Hidayah binti Zaini
Nurhaslinda Hashim
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Sulaiman Mahzan

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En. Mohd Nor Rajian
En. Mohd Suhaimi Abdul Rahman
En. Razul Sharif
En. Mohd Sufian Md Ali
En. Faizul Ab. Razak
En. Ahmad Nasrin Mansor
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En. Amran Abdul Razak
En. Nor Azizan Abdullah
Pn. Nor Hidaya Baba
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Pn. Rafidah Abdul Karim
Nurul Huda Mohamad Saad

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Innovation For Sustainable Growth
An Innovative Exhibition of Higher Learning Research

13. *Nutri-Seed Flakes*

Fakulti Sains Gunaan
UiTM Shah Alam

Noriham Abdullah, Wan Saidatul Syida Wan Kamarudin, Nurain Aziman, Khairusy Syakirah Zulkifli

Abstract

Nutri-seed flakes is a breakfast cereal prepared from local fruit waste i.e. seed of winter melon fruit as the main ingredient. Food wastes have long been discussed as having potential as functional ingredients. Winter melon fruit is considered as underutilized fruit in Malaysia. Hence, the development of this fruit into more beneficial food product especially the seed part which is considered as waste, is a great challenge. Seed of winter melon is rich in fiber, amino acid, natural sugar, organic acid and phenolic compounds. This invention is to introduce a new type of breakfast cereal using cheap and simple drying method that will not only meet consumers demand but also carries beneficial health properties. Nutri-seed flakes is a tasty and nutritious breakfast cereal using local fruit that can be commercialized and consumed by people of all age groups.

14. *Oil Palm Biomass Waste As A Potential Colour Removal for Batik Wastewater Treatment*

Fakulti Kejuruteraan Kimia
UiTM Dungun Terengganu

Amin Nor Rashdan A. Raaman, Norkamruzita Saadon, Nor Ashikin Yusof, Noorasyidah Othman, Ahmad Fakhri Zawawi

Abstract

Dye is a widely-used colorant in Malaysian batik industry and it can be harmful to any living things which are exposed to its toxicity. Due to this, many treatments have been developed but most of these methods are very costly. Hence, more cheap and feasible methods need to be discovered in treating the wastewater. This study ventures on the use of activated carbon from the oil palm biomass waste, specifically oil palm kernel shell, oil palm fronds and empty fruit bunch as the colour removal from direct dye solutions. This discovery gives a promising future to the oil palm industries since the biomass waste, which is available throughout the whole year, will be used efficiently. This method can help small batik industries to reduce the cost of treating their wastewater and hence, encouraging them to cooperate in protecting the environment from the pollution. This leads in building up clean batik industries. Perhaps, Malaysia can be a safe place to live in the future.