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12

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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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 for 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.

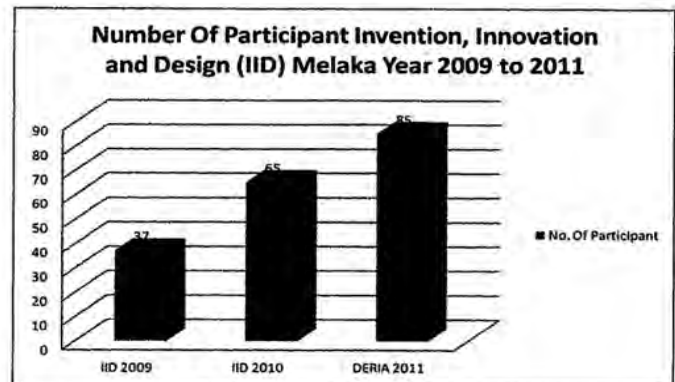
To raise the status of local universities globally or among the KPI which has been determined by the Ministry of Higher Education (MoHE) and to achieve the status of Research University, the total number of innovation being produced by a university is of utmost importance. Innovation is a vital catalyst 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

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Vani a/p Tanggamani  
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## ■ Event Manager

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Nurul Ain Mustakim  
Muna Kameelah Saudi  
En. Mohd Hatta Mohd Yatim

## ■ Logistic and Tour

Akmal Adanan  
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  
Ahmad Syaifullizan Zulkeefly  
Sulaiman Mahzan

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En. Saiful Hamzah Abd Rahim  
En. Alias Tompong  
En. Mohd Radzie Mohd Ramli  
En. Mohd Hazrie Tahar  
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  
En. Yahya Abdul  
Pn. Murni Abu  
En. Amran Abdul Razak  
En. Nor Azizan Abdullah  
Pn. Nor Hidaya Baba  
Cik Siti Husnima Md Husin

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Isma Izza Mohamad Esa  
Pn. Rafidah Abdul Karim  
Nurul Huda Mohamad Saad

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Innovation For Sustainable Growth  
An Innovative Exhibition of Higher Learning Research

**97.**

## ***Research Sampling Size System (RSST)***

Fakulti Pengurusan Perniagaan, UiTM  
Puncak Alam

Tuan Badrol Hisham Tuan Besar, Sharidatul Akma binti Abu Seman, Ahmad Rais Mohamad Mokhtar

### ***Abstract***

It is a requirement for the undergraduate students to conduct a research as a partial fulfilment of their academic program. However, some students have experienced difficulties in accurately determining the required sample size for their studies. Most of them have made reference to a specific table which might not be so accurate under certain number of constraints; number of population, the level of precision required, the chosen type of sampling technique, the chosen type of data collection method, and others. Therefore, this project is intended to provide assistance to the undergraduate students so that the results of their studies might be more representative of the population. The project is unique from the existing application since it considers the most constraints involved in determining the sample size. It is expected that the project will bring a great relief for students, lecturers and researchers in conducting a more meaningful research for the benefit of the society and the nation in general.

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## ***Roller Stick***

Fakulti Pengurusan Perniagaan  
UiTM Kampus Bandaraya Melaka

Nor Ammera binti Musa, Nazirah Binti Zaini, Nasihah Binti Tugiran, Elisza Gamud Anak Seliang  
Ahmad Rifaie Aqmal Bin Zulkifli, Atiqah Binti Tajul Muluk, Nur Faridah Binti Abd Rahman

### ***Abstract***

Roller stick is equipment for trapping dust. It is suitable for keeping the house clean and easy to store because it is not too big. We just need to roll the roller at the dust and it will stick to it. We only have to tear the used part and throw it away in the dustbin. In addition, it is suitable for people who are in a hurry. When we use roller stick, we can save the electricity. It is easier to use than using broom because the dust will fly away and not all dust will be swept. Children can also use it because it is light and easy to use. We can also use it to clean the ceiling fan because the stick of the roller can be adjusted. We do not need to climb chair to clean the ceiling fan. It is also suitable for people who have asthma because the dust will not fly away while rolling. Therefore, people who are allergic to dust can also clean the house. By using roller stick, it is easier for housewife to keep the house clean and have a healthy life.