



## Perkara V

# PENYELIDIKAN DAN PEMBANGUNAN



## PENGIKTIRAFAN PENYELIDIKAN

Sepanjang tahun 2014, UniMAP melalui para penyelidiknya telah menyertai 8 pameran penyelidikan peringkat kebangsaan dan 8 penyertaan di peringkat antarabangsa.

Pameran di peringkat nasional dimulai dengan penyertaan di MTE 2014 apabila UniMAP berjaya meraih 34 pingat secara keseluruhan dengan pecahan 15 pingat emas, 11 perak dan 8 gangsa. UniMAP turut mencipta kejayaan manis apabila tiga produk emasnya berjaya merangkul Anugerah Terbaik. Dalam penyertaan di ITEX 2014, UniMAP berjaya mencipta tsunami emas apabila meraih 55 pingat emas, 14 perak dan 1 gangsa sekaligus dinobatkan sebagai johan keseluruhan, di samping membawa pulang 5 anugerah khas. Penyertaan di Bio Technology Asia atau dahulunya dikenali sebagai BioMalaysia and The BioEconomy Asia Pacific turut memberi pulangan yang baik kepada UniMAP apabila berjaya merangkul 2 emas, 4 perak dan 8 gangsa disamping dua anugerah Anugerah Terbaik. Selain itu, melalui pameran Malaysian Road Conference-Invention and Innovation Exhibition (MRC-IIE) 2014 para penyelidik UniMAP berjaya meraih 1 pingat emas dan 2 pingat gangsa. UniMAP turut berjaya meraih 2 pingat emas melalui International Innovation Festival 2014 (INNOFEST).

Melalui Malaysian Agricultural Innovation Challange Magic 2014 (MAGIC) yang julung kali dianjurkan, penyelidik UniMAP berjaya meraih 1 pingat emas dan 1 pingat perak. UniMAP turut meraih 1 pingat emas dan 2 pingat gangsa menerusi penyertaan dalam The International Materials Technology Conference And Exhibition (IMTCE). Di samping itu juga, penyertaan pertama kali penyelidik UniMAP dalam The Asia Pacific ICT Awards (APICTA) berjaya dengan perolehan 1 pingat emas.

Kecemerlangan UniMAP bukan sekadar di peringkat kebangsaan. Pada 2014 UniMAP bersaing di 9 pameran berprestij yang dianjurkan di peringkat antarabangsa. Kejayaan UniMAP dimulai menerusi penyertaan di EUROINVENT 2014. Para penyelidik UniMAP berjaya merangkul 7 emas, 4 Perak dan membawa pulang 4 anugerah khas. Penyertaan penyelidik wanita UniMAP di Korean International Women's Invention Exposition (KIWIE) juga tidak menghamparkan apabila berjaya meraih 3 pingat emas dan 3 perak serta 1 anugerah khas. Penyertaan UniMAP dalam 17th Moscow International Salon of Inventions and Innovation Technologies pula membawa pulangan sebanyak 6 emas, 4 perak dan 5 anugerah khas. Penglibatan UniMAP di Pameran Rekacipta Antarabangsa Kaohsiung (KIE 2014) yang berlangsung di Kaohsiung, Taiwan juga berhasil apabila berjaya menggondol 3 pingat emas dan 2 pingat perak dan 3 anugerah khas di dalam pameran tersebut.

Para penyelidik UniMAP turut cemerlang dalam British Invention Show (BIS) dengan memperolehi 4 emas, 3 perak dan 1 gangsa di samping berjaya menggondol 2 anugerah khas. Manakala penyertaan di Pameran International Trade Fair, Ideas, Invention of New Products (IENA) penyelidik UniMAP berjaya memperolehi 2 emas dan 1 perak, serta 1 anugerah khas. Melalui Pameran International

Exhibition of Inventions, Kunshan New Inventions, New Technologies and New Products (IEIK), di Kushan China, UniMAP berjaya menggondol 4 pingat emas, 2 pingat perak dan 3 pingat gangsa. Tirai penyertaan inovasi UniMAP di akhiri dengan penyertaan di SIFF 2014 di Korea Selatan di mana para penyelidik berjaya membawa pulang 3 emas, 7 perak dan 6 gangsa di samping 3 Anugerah Khas.

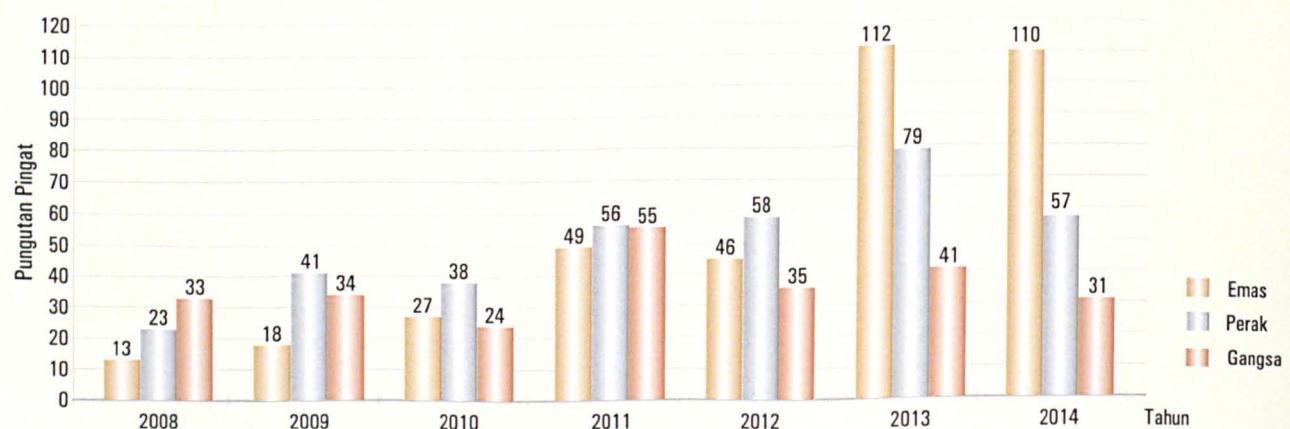
Menganalisa pencapaian semenjak penyertaan pertama UniMAP dalam aktiviti pameran pada tahun 2005, UniMAP terus menunjukkan prestasi meningkat dari tahun ke tahun. Ini adalah hasil daripada komitmen yang tinggi daripada penyelidik dalam penghasilan produk penyelidikan yang bermutu tinggi, serta semangat dan budaya penyelidikan yang diterapkan oleh pihak pengurusan tertinggi UniMAP.

Senarai pungutan pingat seperti jadual 1 di bawah:

#### Senarai Penuh Pungutan Pingat 2014

Bil.	Nama Pameran	Pingat			Anugerah Khas
		Emas	Perak	Gangsa	
Kebangsaan	1 13th Malaysia Technology Expo (MTE)	15	11	8	3
	2 International Invention, Innovation, Industrial Design & Technology Exhibition (ITEX)	55	14	1	4
	3 BioTechnology Asia @ BioMalaysia and The BioEconomy Asia Pacific	2	4	8	2
	4 International Materials Technology Conference And Exhibition (IMTCE)	1	0	2	0
	5 Malaysian Road Conference - Invention And Innovation Exhibition (MRC-IIIE)	1	0	2	0
	6 Malaysian Agricultural Innovation Challenge (MAGIC)	1	1	0	0
	7 International Innovation Festival (INNOFEST)	2	0	0	0
	8 The Asia Pacific ICT Awards (APICTA)	1	0	0	0
Antarabangsa	9 European Exhibition of Creativity and Innovation (EUROINVENT) Romania	7	4	0	4
	10 Korea International Women's Invention Exposition (KIWIE)	3	3	0	1
	11 Moscow International Salon Of Inventions And Innovation Technologies	6	4	0	5
	12 Pameran Rekacipta Antarabangsa Kaohsiung (KIE)	3	2	0	3
	13 British Invention Show (BIS)	4	3	1	2
	14 International Trade Fair, Ideas, Invention of New Products (IENA)	2	1	0	1
	15 Seoul International Invention Fair (SIIF)	3	7	6	3
	16 International Exhibition Of Inventions Kunshan New Inventions, New Technologies And New Products (IEIK)	4	2	3	0
	17 12th International Innovation Arca 2014, Zagreb, Croatia	0	1	0	0
Jumlah Pingat		110	57	31	28

Jadual 1 : Jumlah Keseluruhan Pungutan Pingat Pameran Di Peringkat Nasional Dan Antarabangsa



Graf Perbandingan Pencapaian Pungutan Pingat (Tahun 2008 - 2014)

# PENYELIDIKAN DAN PEMBANGUNAN

## PENCAPAIAN PRODUK PENYELIDIKAN

Senarai Pencapaian Pingat Pameran Penyelidikan Peringkat Kebangsaan & Antarabangsa Tahun 2005 - 2014

Bil	Nama Pameran	2005			2006			2007			2008			2009			2010			2011			2012			2013			2014				
		Pingat			Pingat			Pingat			Pingat			Pingat			Pingat			Pingat			Pingat			Pingat							
		E	P	G	E	P	G	E	P	G	E	P	G	E	P	G	E	P	G	E	P	G	E	P	G	E	P	G	E	P	G		
1	International Invention, Innovation, Industrial Design & Technology Exhibition (ITEX)	1	4	2	1	6	9	6	11	9	2	11	15	9	17	9	11	25	9	11	24	11	19	30	9	32	26	1	55	14	1		
2	Persidangan dan Ekpo Ciptaan Institusi Pengajian Tinggi Antarabangsa (PECIPTA)	1	4	8				1	4	5				2	10	3				9	6	16				16	19	16					
3	International Exhibition of Invention New Techniques & Products, Geneva				1	2	0	1	1	2	1	2	0	0	3	3				2	2	0	1	3	0								
4	Malaysia Technology Expo (MTE)							1	1	1	2	3	11	1	7	9	2	8	12	4	7	16	5	14	16	7	10	10	15	11	8		
5	International Trade Fair, Ideas, Inventions of New Products (IENA)							1	1	0	1	2	0	1	0	3	2	1	0	3	1	0	2	1	0	2	1	1	2	1	0		
6	Pameran Brussels Innova Energy (EUREKA)							1	0	0	2	1	0																				
7	International Warsaw Invention Show (IWIS)							1	0	0										3	1	0				7	1	0					
8	Invention & New Products Exposition (INPEX)							0	1	0	1	2	1									2	0	0									
9	BioMalaysia and BioEconomy Asia Pacific										1	0	5	1	3	6	4	3	3	2	6	10	3	9	10	3	4	7	2	4	8		
10	Seoul International Invention Fair (SIIF)								3	2	1	0	1	1	3	1	0	4	4	1	3	1	0	3	4	2	3	7	6				
11	British Invention Show (BIS)										4	0	0	5	0	0	3	2	0	1	0	0	3	0	1	4	3	1					
12	International Invention Show (INOVA) Croatia																8	3	1	3	0	0	3	1	0								
13	European Exhibition of Creativity and Innovation (EUROINVENT) Romania																			4	0	0	10	3	0	7	4	0					
14	International Exhibition of Inventions (Kunshan), New Techniques & Products (IEIK)																			2	0	0				4	2	3					
15	Korea International Women's Invention Exposition (KIWIE)																			1	0	0	3	5	4	3	3	0					
16	Asian Young Inventors For Young Inventors (AYIE)																			10	0	0											
17	Macau International Innovation & Invention Expo (CM)																			11	7	0											
18	International Youth Invention Contest (IYIC)																			4	2	0											
19	Taipei International Invention Show & Technomart (INST)																			1	0	1											
20	International Materials Technology Conference And Exhibition (IMTCE)																								1	0	2						
21	Malaysian Road Conference -Invention And Innovation Exhibition (MRC-IIIE)																								1	0	2						
22	Malaysian Agricultural Innovation Challange (MAGIC)																								1	1	0						
23	International Innovation Festival (INNOFEST)																								2	0	0						
24	The Asia Pacific Ict Awards(APICTA)																								1	0	0						
25	Moscow International Salon of Inventions And Innovation Technologies																								6	4	0						
26	12th International Innovation Arca 2014, Zagreb, Croatia																								0	1	0						
27	Pameran Rekacipta Antarabangsa Kaohsiung (KIE)																								3	2	0						
Jumlah		2	8	10	2	8	9	12	19	17	13	23	33	18	41	34	27	38	24	49	56	55	46	58	35	112	79	41	110	57	31		

**SENARAI PENCAPAIAN PRODUK PENYELIDIKAN****[PERINGKAT ANTARABANGSA]****SEOUL INTERNATIONAL INVENTION FAIR (SIIF), SOUTH KOREA****Pingat EMAS:****PM Dr. Rizalafande Che Ismail**

Dr. Sohiful Anuar Zainol Murad

Dr. Mohd. Nazrin Md. Isa

Produk: High-Speed, Cost-Effective and Accurate Arithmetic Unit Using Logarithmic Number System for 3D Transformation Architecture**PM Dr. Mohammad Iqbal Omar**

Prof. Dr. Ali Yeon Md. Shakaff

Dr. Ammar Zakaria

Dr. Latifah Munirah Kamarudin

Dr. Amizah Othman

Dr. Yeap Ewe Juan

Syed Muhammad Mamduh

Mohd Sadek

Azian Azamimi

Nurlisa Yusuf

Produk: Rapid Bacteria Species Detection for Diabetic Foot Infection**Prof. Dr. Uda Hashim**

Sharipah Nadzirah Syed Ahmad Ayob

Dr. Ruslinda A. Rahim

Produk: E-Coli DNA Test Kit (E.D KIT)**Pingat PERAK:****Noorina Hidayu Jamil**

Wan Mohd. Arif W. Ibrahim

Faizul Che Pa

Ruhiyuddin Mohd. Zaki

Shahrizam Saad

Murizam Darus

Mohamed Faisol Mohamed Nor

Produk: GG Powder**Dr. Mohd Rashidi Che Beson**

Prof. Dr. Syed Alwee Aljunid Syed Junid

PM Ir. Dr. Anuar Mat Safar

Abdullah Omar Ali Al-Dhaibani

Tengku Faslilidiana Tengku Putra

Produk: Optical CDMA System Using Novel Modified Double Weight (MDW) Code for Industrial Applications**Dr. M. Murugappan**

M Vasanthan

Produk: Real Time Human Emotion Revealing Based Home Appliance Control Through Optical Flow Algorithm**Dr. Sohiful Anuar Zainol Murad**

Dr. Mohd. Nazrin Md. Isa

PM Dr. Rizalafande Che Ismail

Mohd. Fairus Ahmad

Produk: Ultra-Compact Power Amplifier Wireless Sensor Networks for Agriculture**Dr. Ragunathan a/l Santiago**

Vasanthan A/L Maruthapillai

Allan Melvin A/L Andrew

Datuk Prof. Dr. Kamarudin Hussin

Sumathy A/P Muniandy

Produk: WEC-BREAKER : Novel Electro-Aquatic Circuit Breaker in Flood Prone Areas From E-Waste**PM Ir. Dr. Kenneth Sundaraj**Produk: iPAD-Intelligent Pulmonary Auscultation & Diagnosis**Rozyanty Rahman**

Nasaruddin Mohamad Nor

Nur Firdaus Mohamed Yusof

Produk: "Kenaf-Septank" A Green Hybrid Septic Tank And High Performance Composite**Pingat GANGSA:****Zuraini Mohd Ideris**

Dr. Nasrul Hamidin

Mohd. Faizal Ab. Jalil

Dr. Ragunathan A/L Santiago

Produk: Health Risk Assessment in Human Environment**PM Dr. Mohd. Fares Abd. Malek**

Lee Yeng Seng

Baharuddin Ismail

Produk: Design & Development The Frequency Selective (Fss) To Enhance The Wlan Application Signal**Aimi Noorliyana Hashim**

Kamrosni Abdul Razak

Noor Azira Mohd. Noor

Produk: ECO-Slag Cement**Dr. Ruslinda A. Rahim**Produk: Nano Chanell Solution Gate Field-Effect Transistor (SGFET) for Protein Detection**Dr. Sam Sung Ting**

Nuradibah Mohd. Amer

Ainatun Nadirah Azmi

Nurul Hani Md. Zubir

Produk: MULDEGRA**PM Dr. Zainab Hamzah**

Sarojini Jeyaraman

Nur Hulwani Ibrahim

PM Dr. Othman Hashim

Datuk Prof. Dr. Kamarudin Hussin

Produk: Value added Product From EBN Waste For The Cosmetic Industry**BRITISH INVENTION SHOW (BIS), LONDON****Pingat EMAS:****Dr. Shahriman Abu Bakar**

Lee Hoi Leong

Prof. Dr. Sazali Yaacob

PM Dr. Mohammad Iqbal Omar

PM Dr. Wan Khairunizam Wan Ahmad

Dr. Mohd. Afendi Rojan

Dr. Zuradzman Mohamad Razlan

Dr. Cheng Ee Meng

PM Dr. Hazry Desa

Dr. Siti Khadijah Za'aba

Dr. Shafriza Nisha Basah

Nazrul H. Adnan

Produk: I-Phad: Hemodynamic Assessment Tool**Dr. Shahriman Abu Bakar**

Rozman Abd. Rahim

Dr. Cheng Ee Meng

Norazli Ahmad

Mohd Syakir Mohd Shuhaimi

Dr. Zuradzman Mohamad Razlan

PM Dr. Hazry Desa

PM Dr. Wan Khairunizam Wan Ahmad

Dr. Mohd. Afendi Rojan

Dr. Siti Khadijah Za'aba

Dr. Shafriza Nisha Basah

Mohd. Yamin Jamil

Nazrul H. Adnan

Produk: Mobility Free Lifesystem**PM Dr. Mohd Mustafa Al Bakri Abdullah**

Datuk Prof. Dr. Kamarudin Hussin

PM Dr. Che Mohd. Ruzaidi Ghazali

Muhammad Faheem Mohd. Tahir

Mohammad Tamizi Selimin

Dr. Norazian Mohamed Noor

Produk: Geopolymer Brick & Block Making Machine**Farah Farhana Zainal**

PM Dr. Mohd Mustafa Al Bakri Abdullah

Datuk Prof. Dr. Kamarudin Hussin

Prof. Dr. Azmi Rahmat

Liyana Jamaludin

Rafiza Abdul Razak

Produk: Anti Corrosion Coating

**Pingat PERAK:**

**Prof. Dr. Syed Alwee Aljunid Syed Junid**  
 PM Ir. Dr. Anuar Mat Safar  
 Dr. Mohd Rashidi Che Beson  
 Abdullah Omar Ali Al Dhaibani  
 Tengku Fasilidiana Tengku Putra  
Produk: Triple Play Service Zero Cross-Correlation for FTTH-OCDMA Systems

**Prof. Ir. Dr. Rezuwan Kamaruddin**  
 Datuk Prof. Dr. Kamarudin Hussin  
 PM Dr. Mahmad Nor Jaafar  
Produk: Greenhouse With Fertigation In Tropics

**Prof. Ir. Dr. Rezuwan Kamaruddin**  
 Prof. Dr. Syed Alwee Aljunid Syed Junid  
 Dr. Naseer Sabri Salim  
Produk: Solar\_Dryer Structure\_In Agriculture

**Pingat GANGSA:**

**Prof. Dr. Syed Alwee Aljunid Syed Junid**  
 PM Ir. Dr. Anuar Mat Safar  
 Dr. Mohd Rashidi Che Beson  
 Dr. Hamza Mohammed Ridha Al-Khafaji  
 Tengku Fasilidiana Tengku Putra  
Produk: Single Photodiode Detection for OCDMA Industrial Network Application

**17<sup>TH</sup> MOSCOW INTERNATIONAL SALON OF INVENTIONS & INNOVATION TECHNOLOGIES**

**Pingat EMAS:**

**PM Dr. Mohd Mustafa Al Bakri Abdullah**  
 Datuk Prof. Dr. Kamarudin Hussin  
 Dr. Kahtan S. Mohammed  
**PM Dr. Che Mohd. Ruzaidi Ghazali**  
 Muhammad Faheem Mohd. Tahir  
 Ali Basheer Azeez  
 Zarina Yahya  
Produk: Geopolymer Composite Radiation Shielding Panel

**Norshah Afizi Shuaib**  
 Irfan Abd. Rahim  
 Shayfull Zamree Abd. Rahim  
 Mohd. Nasir Mat Saad  
 Mohd. Fidzwan Md. Amin Hamzas  
 Amarul Talip  
 Mohd Khairul Fadzly Abu Bakar  
 Mohd. Fathullah Ghazli@Ghazali  
 Badrul Azmi Abdul Holed  
Produk: Roadside Wind & Pressure Energy Harvester

**Mohd. Nasir Mat Saad**  
 Khairul Azwan Ismail  
 Shayfull Zamree Abd. Rahim  
 Norshah Afizi Shuaib  
**Mohd. Fathullah Ghazli@Ghazali**  
 Mohd. Effendi Muhammad Suandi  
 Muhamad Farizuan Rosli  
 Irfan Abd. Rahim  
Produk: Multi-Objective Optimization of Plastic Injection Molding Process

**Dr. Syed Zulkarnain Syed Idrus**  
 Dr. Norshahrizan Nordin  
 Ku Amir Ku Daud  
Produk: Soft Biometrics For Keystroke Dynamics Based User Authentication

**PM Dr. Che Mohd. Ruzaidi Ghazali**  
**PM Dr. Mohd Mustafa Al Bakri Abdullah**  
 Datuk Prof. Dr. Kamarudin Hussin  
 Alida Abdullah  
 Muhammad Faheem Mohd. Tahir  
 Mohammad Firdaus Abu Hashim  
Produk: Continous Fiber - Geopolymer Composite Via Filament Winding

**Dr. Nik Noriman Zulkepli**  
 Haliza Jaya  
 Nur Suhaili Abdul Wahab  
 Mohamad Hazwan Subli  
Produk: Greenplast - Novel Oxo-Biodegradable Plastics Using Natural Pro-Oxidant

**Pingat PERAK:**

**Mohd Khairul Fadzly Abu Bakar**  
 Amarul Talip  
 Shayfull Zamree Abd. Rahim  
**Mohd. Nasir Mat Saad**  
 Mohd. Fidzwan Md. Amin Hamzas  
 Norshah Afizi Shuaib  
 Badrul Azmi Abdul Holed  
**Mohd. Fathullah Ghazli@Ghazali**  
 Irfan Abd. Rahim  
Produk: Low Cost Home Automation System

**Amarul Talip**  
**Mohd Khairul Fadzly Abu Bakar**  
 Shayfull Zamree Abd. Rahim  
**Mohd. Nasir Mat Saad**  
 Mohd. Fidzwan Md. Amin Hamzas  
 Norshah Afizi Shuaib  
 Badrul Azmi Abdul Holed  
 Irfan Abd. Rahim  
**Mohd. Fathullah Ghazli@Ghazali**  
Produk: APRS Igate for Amateur Radio

**PM Dr. Che Mohd. Ruzaidi Ghazali**  
**PM Dr. Mohd Mustafa Al Bakri Abdullah**  
 Datuk Prof. Dr. Kamarudin Hussin  
 Prof. Dr. Shamsul Baharin Jamaludin  
 Alida Abdullah  
 Mohamed Faisol Mohamed Nor  
Produk: Industrial Solid Waste Brake Pad

**Dr. Mohd Firdaus Omar**  
 Dr. Nik Noriman Zulkepli  
 Dr. Sam Sung Ting  
Produk: Pulfmap - A New Generation Of Lightweight Structural

**KOREAN INTERNATIONAL WOMEN'S INVENTION EXPOSITION (KIWIE), SOUTH KOREA**

**Pingat EMAS:**

**Sharifah Zaliha Syed Zuber**  
**PM Dr. Mohd Mustafa Al Bakri Abdullah**  
 Datuk Prof. Dr. Kamarudin Hussin  
 Muhammad Faheem Mohd. Tahir  
 Noor Fifinatasha Shahedan  
 Dr. Norazian Mohamed Noor  
Produk: Geopolymerization Method For Soil Stabilization Application

**Aimi Noorliyana Hashim**  
 Noor Mariamadzliza Mohd. Nan  
 Kamrosni Abdul Razak  
 Noor Azira Mohd. Noor  
Produk: Eco-Slag Cement

**Noorina Hidayu Jamil**  
 Wan Mohd. Arif W. Ibrahim  
 Faizul Che Pa  
 Ruhiyuddin Mohd. Zaki  
 Shahrizam Saad  
 Murizam Darus  
 Mohamed Faisol Mohamed Nor  
Produk: AgriGlas: From Agricultural Waste To Glass & Ceramic Product

**Pingat PERAK:**

**Aimi Noorliyana Hashim**  
 Faizul Che Pa  
**PM Dr. Che Mohd. Ruzaidi Ghazali**  
Produk: EcOdor Buster

**Romisuhani Ahmad**  
**PM Dr. Mohd Mustafa Al Bakri Abdullah**  
 Datuk Prof. Dr. Kamarudin Hussin  
 Muhd. Izzat Ahmad  
**PM Dr. Che Mohd. Ruzaidi Ghazali**  
 Alida Abdullah  
 Nur Ain Jaya

## SENARAI PENCAPAIAN PRODUK PENYELIDIKAN

Produk: A Novel Geopolymer Ceramic

**PM Dr. Mohd Mustafa Al Bakri Abdullah**

Sharifah Zaliha Syed Zuber  
Datuk Prof. Dr. Kamarudin Hussin  
Ali Basheer Azeez  
Dr. Kahtan S. Mohammed  
PM Dr. Che Mohd. Ruzaidi Ghazali  
Romisuhani Ahmad  
Produk: Anti Radiation Geopolymer Composite

### INTERNATIONAL TRADE FAIR, IDEAS - INVENTIONS OF NEW PRODUCTS (IENA), GERMANY

Pingat EMAS:

**Dr. Hakimah Osman**

Produk: HYPO - G : Newly Developed Natural Rubber Glove with Tapioca Tree Latex

**Fathinul Syahir Ahmad Sa'ad**

Prof. Dr. Ali Yeon Md. Shakaff  
Dr. Ammar Zakaria  
Shaharil Md. Saad  
Mohd. Firdaus Ibrahim  
Produk: FRIn™ - Fruit Ripeness Indicator

Pingat PERAK:

**PM Dr. Abu Hassan Abdullah**

Prof. Dr. Ali Yeon Md. Shakaff  
Prof. Dr. Abdul Hamid Adom  
Dr. Ammar Zakaria  
Fathinul Syahir Ahmad Sa'ad  
Mohd Al Haffiz Saad  
Mohd Faizal Ab. Jalil  
Norasmadi Abdul Rahim  
Huzein Fahmi Hawari  
Produk: HAZSens: Web-Based Machine Olfaction System for Atmospheric Hazards

### 6<sup>TH</sup> EUROPEAN EXHIBITION OF CREATIVITY AND INNOVATION (EUROINVENT)

Pingat EMAS:

**Alida Abdullah**

PM Dr. Mohd Mustafa Al Bakri Abdullah  
Datuk Prof. Dr. Kamarudin Hussin  
PM Dr. Che Mohd Ruzaidi Ghazali  
Rafiza Abdul Razak  
Zarina Yahya  
Produk: Fly Ash Artificial Geopolymer Aggregate Using Low Temperature

**Dr. Mohd Firdaus Omar**

Dr. Nik Noriman Zulkepli

Produk: Sam Sung Ting

**Dr. Sam Sung Ting**  
Produk: BioxdPlast - A Novel Natural Pro-Oxidant for Biodegradable Plastic

**Dr. Mohd Firdaus Omar**

Haliza Jaya  
Nur Suhaili Abdul Wahab  
Mohamad Hazwan Subli  
Produk: PulFF - A New Sustainable Lightweight Structural

**PM Dr. Mohd Mustafa Al Bakri Abdullah**

Datuk Prof. Dr. Kamarudin Hussin  
PM Dr. Che Mohd. Ruzaidi Ghazali  
Muhammad Faheem Mohd. Tahir  
Mohammad Tamizi Selimin  
Wan Mastura Wan Ibrahim  
Mohd. Arif Anuar Mohd. Salleh  
Produk: Towards Green Construction Materials: Geopolymer Composite Brick Fabrication Machine Vol. 2.0

**Dr. Norazian Mohamed Noor**

PM Dr. Mohd Mustafa Al Bakri Abdullah  
PM Dr. Ahmad Shukri Yahaya  
Wong Yee Shian  
Produk: SSDEM©: Statistical Software for Filling Missing Observations and Fitting Distribution in Air Pollutant Monitoring Data

**Mohd. Fathullah Ghazli@Ghazali**

Datuk Prof. Dr. Kamarudin Hussin  
Shayfull Zamree Abd. Rahim  
Norshah Afizi Shuaib  
Mohd. Nasir Mat Saad  
Muhamad Farizuan Rosli  
Mohd. Effendi Muhammad Suandi  
Produk: Novel Red Phosphor for LEDs and Displays

**Dr. Syed Zulkarnain Syed Idrus**

Sharmini Abdullah  
Dr. Ku Mohd. Nabil Ku Hamid @ Ku Ismail  
Produk: Enhancing Keystroke Dynamics Biometric Systems With Soft Biometrics

Pingat PERAK:

**Shayfull Zamree Abd. Rahim**

Datuk Prof. Dr. Kamarudin Hussin  
Mohd. Nasir Mat Saad  
Mohd. Fathullah Ghazli@Ghazali  
Irfan Abd. Rahim  
Muhamad Farizuan Rosli  
Mohd. Effendi Muhammad Suandi  
Produk: Improving Quality And Productivity In Rapid Heat Cycle Molding with A New Design Of Conformal Cooling Channels

**Dr. Mukhzeer Mohamad Shahimin**

Dr. Mohamad Halim Abd. Wahid  
Khor Kang Nan  
Produk: Integrated Optical Biosensor for Early Dengue Detection

**Dr. Syed Zulkarnain Syed Idrus**

Ku Amir Ku Daud  
Dr. Norshahrizan Nordin  
Sharmini Abdullah  
Produk: Soft Biometrics Database: A Benchmark For Keystroke Dynamics Biometric Systems

**Alida Abdullah**

Mohd. Arif Anuar Mohd. Salleh  
Dr. Norainiza Saud  
PM Dr. Mohd Mustafa Al Bakri Abdullah  
Datuk Prof. Dr. Kamarudin Hussin  
Flora Somidin  
Produk: Nanocomposite Solder Material Fabricated using Innovative Hybrid Microwave Assisted Rapid Sintering

### KOAHSIUNG INTERNATIONAL INVENTION EXHIBITION (KIIE 2014)

Pingat EMAS:

**Dr. Mukhzeer Mohamad Shahimin**

Produk: Ameliorated Solar Cell

**Dr. Norazian Mohamed Noor**

PM Dr. Mohd Mustafa Al Bakri Abdullah  
PM Dr. Ahmad Shukri Yahaya  
Prof. Dr. Nor Azam Ramli  
Produk: APP©: Statistical Software for Predicting Air Pollutant

**Dr. Liew Yun Ming**

Dr. Heah Cheng Yong  
PM Dr. Mohd Mustafa Al Bakri Abdullah  
Datuk Prof. Dr. Kamarudin Hussin  
PM Dr. Che Mohd Ruzaidi Ghazali  
Produk: Fire-Shield Paint

Pingat PERAK:

**Dr. Mukhzeer Mohamad Shahimin**

Dr. Mohamad Halim Abd. Wahid  
Produk: Fibre Optic Based Structural Sensor

**Shamala A/P Ramasamy**

Noor Fifinatasha Shahedan  
PM Dr. Mohd Mustafa Al Bakri Abdullah  
Datuk Prof. Dr. Kamarudin Hussin  
PM Dr. Che Mohd. Ruzaidi Ghazali  
Produk: Novel GeoGreen-Coat

**THE 8<sup>TH</sup> INTERNATIONAL EXHIBITION OF INVENTIONS KUNSHAN (IEIK 2014), KUNSHAN, CHINA**

**Pingat EMAS:**

**Wan Mohd. Arif W. Ibrahim**  
 Noorina Hidayu Jamil  
 Faizul Che Pa  
 Ruhiyuddin Mohd. Zaki  
 Murizam Darus  
Produk: CERADEN-AGRIGLASS

**Shamala A/P Ramasamy**  
 PM Dr. Mohd Mustafa Al Bakri Abdullah  
 Datuk Prof. Dr. Kamarudin Hussin  
 PM Dr. Che Mohd. Ruzaidi Ghazali  
 Noor Fifinatasha Shahedan  
Produk: Novel Geo-Green Coat

**Amarul Talip**  
 Mohd. Nasir Mat Saad  
 Shayfull Zamree Abd. Rahim  
 Irfan Abd. Rahim  
 Mohd Khairul Fadzly Abu Bakar  
 Badrul Azmi Abdul Holed  
 Norshah Afizi Shuaib  
 Mohd. Fidzwan Md. Amin Hamzas  
Produk: PDIGI IGATE

**Mohd Khairul Fadzly Abu Bakar**  
 Amarul Talip  
 Shayfull Zamree Abd Rahim  
 Mohd Fidzwan Md Amin Hamzas  
 Mohd Nasir Mat Saad  
 Badrul Azmi Abdul Holed  
 Norshah Afizi Shuaib  
 Irfan Abd Rahim  
Produk: GSM Temperature Alert System to Detect Human Body Temperature

**Pingat PERAK:**

**Dr. Noorhafiza Muhammad**  
 Mohd. Shuhidan Saleh  
Produk: Multi-Phase Smoothed Particle Hydrodynamics (SPH) Modelling For Laser Micromachining

**Noorina Hidayu Jamil**  
 Wan Mohd Arif W. Ibrahim  
 Faizul Che Pa  
 Ruhiyuddin Mohd. Zaki  
 Murizam Darus  
Produk: AGRIGLASS

**Pingat GANGSA:**

**Dr. Noorhafiza Muhammad**  
 Mohd. Shuhidan Saleh  
Produk: Underwater Femtosecond Laser Micromachining For Medical Stent Manufacture

**Rafiza Abdul Razak**  
 PM Dr. Mohd Mustafa Al Bakri Abdullah  
 Alida Abdullah  
 Datuk Prof. Dr. Kamarudin Hussin  
 Zarina Yahya  
Produk: Artificial Geopolymer Aggregate

**Shayfull Zamree Abd. Rahim**  
 Mohd. Nasir Mat Saad  
 Mohd. Fathullah Ghazli@Ghazali  
 Irfan Abd. Rahim  
 Muhamad Farizuan Rosli  
 Mohd. Effendi Muhammad Suandi  
Produk: New Design of Milled Grove Square Shape Conformal Cooling Channel for Conventional and Rapid Heal Cycle Molding

**12<sup>TH</sup> INTERNATIONAL INNOVATION EXHIBITION ARCA 2014, ZAGREB, CROATIA**

**Pingat PERAK:**

**Dr. Nik Noriman Zulkepli**  
 Dr. Luqman Musa  
 PM Dr. Mohd Mustafa Al Bakri Abdullah  
 Haliza Jaya  
 Nur Suhaili Abdul Wahab  
 Mohamad Hazwan Subli  
 Ainatun Nadirah Azmi  
 Nuradibah Mohd. Amer  
Produk: AGRINOPRO - Agricultural Film Using Natural Resources As Green Pro-Oxidant



**[PERINGKAT KEBANGSAAN]**

**13<sup>TH</sup> MALAYSIA TECHNOLOGY EXPO (MTE) 2014**

**Pingat EMAS:**

**Prof. Dr. Syed Alwee Aljunid Syed Junid**  
 PM Ir . Dr. Anuar Mat Safar  
 Dr. Mohd Rashidi Che Beson  
 Dr. Hamza Mohammed Ridha Al-Khafaji  
 Dr. Junita Mohd. Nordin  
 Abdullah Omar Ali Al-Dhaibani  
 Tengku Faslilidiana Tengku Putra  
Produk: High Capacity OCDMA System Using Novel Flexible Cross Correlation (FCC) Code

**Dr. Mohd Hafiz Fazalul Rahiman**  
Produk: Ultrasonic Tomograph

**Gomesh Nair A/L Shasidharan**

Dr. Muhammad Irwanto Misrun  
 Mohd. Irwan Yusoff  
 Syafinara Ramli  
Produk: Fabrication of DSSC with A Novel Organic Dye from 'Keriang' Fruit

**PM Dr. Hazry Desa**

Dr. Zuradzman Mohamad Razlan  
 PM Dr. Wan Khairunizam Wan Ahmad  
 Dr. Shahriman Abu Bakar  
 Khairul Azmir Azudin  
 Muhammad Najib Khir Othman  
Produk: AQUA-X Under Water Mobile Robot for Underwater Surveillance Applications

**Dr. M. Murugappan**

M Vasanthan  
Produk: Virtual Markers Based Facial Emotional Revealing for Home Appliances Control Through Optical Flow Algoritm (V-FACE)

**Dr. Mohd Firdaus Omar**

Prof. Hazizan Md Akil  
 Dr. Sam Sung Ting  
 Dr. Nik Noriman Zulkepli  
 Lokman Hakim Ibrahim  
Produk: PulFMAP: A New Generation Of Lightweight Structural

**Mohammad Nuzaihan Md. Nor**

Prof. Dr. Uda Hashim  
 Siti Fatimah Abd. Rahman  
 Dr. Mohd. Khairuddin Md. Arshad  
 Dr. Ruslinda A. Rahim  
 Hasrul Hisham Che Ahmad  
Produk: Highly Sensitive Green Wire Sensor

## SENARAI PENCAPAIAN PRODUK PENYELIDIKAN

**Dr. Norainiza Saud**

Nurul Razliana Abdul Razak  
Zawawi Mahim  
Mohd. Arif Anuar Mohd. Salleh  
Dr. Mohd. Nazree Derman  
Muhammad Hafiz Zan@Hazizi  
Produk: Green High Temperature Composite Solder

**PM Ir. Dr. Kenneth Sundaraj**

Produk: iPAD-Intelligent Pulmonary Assessment & Diagnosis

**Prof. Dr. Uda Hashim**

Sharipah Nadzirah Syed Ahmad Ayob  
Produk: E.COLI DNA Test Kit

**PM Dr. Mohd Mustafa Al Bakri Abdullah**

Datuk Prof. Dr. Kamarudin Hussin  
PM Dr. Che Mohd. Ruzaidi Ghazali  
Muhammad Faheem Mohd. Tahir  
Mohammad Tamizi Selimin  
Wan Mastura Wan Ibrahim  
Produk: GEOBRICK MACHINE: Towards Green Construction Materials

**Prof. Ir. Dr. Rezuwan Kamaruddin**

Datuk Prof. Dr. Kamarudin Hussin  
PM Dr. Mahamad Nor Jaafar  
Mohd. Hishamuddin Che Mat  
Ahmad Azudin Nordin  
Razif Omar  
Produk: Naturally Ventilated Tropical Greenhouse Structure for Commercial Harumanis Production

**Prof. Dr. Syed Alwee Aljunid Syed Junid**

PM Ir. Dr. Anuar Mat Safar  
Dr. Mohd Rashidi Che Beson  
Dr. Abdul Rahman Kram  
Tengku Faslilidiana Tengku Putra  
Produk: Hybrid Subcarrier Multiplexing Modified Double Weight OCDMA Fiber-Wireless Access Network

**PM Dr. Supri A. Ghani**

Siti Hajar Mohd. Din  
Mohd. Hanif Mohd. Pisal  
Fatimah Abd. Rajak  
Produk: Cellulose-Glycosilic From Collocasia Esculenta as Reinforced in Ligh Weight Plate

**Dr. Hakimah Osman**

Dr. Zunaida Zakaria  
Nur Firdaus Mohamed Yusof  
Noor Marlynne Ismail  
Dr. Muzamir Isa  
Produk: Maturation Free Process In Natural Rubber Latex Operations Towards Energy

## Saving and Environmental Protection

**Pingat PERAK:****PM Dr. Abu Hassan Abdullah**

Dato' Dr. Othman Omar  
Prof. Dr. Ali Yeon Md. Shakaff  
Prof. Dr. Abdul Hamid Adom  
Dr. Ammar Zakaria  
Fathinul Syahir Ahmad Sa'ad  
Norasmadi Abdul Rahim  
Huzein Fahmi Hawari  
Mohd. Al Haffiz Saad  
Maz Jamilah Masnan  
Produk: Aromatic Rice Classification System (ARCSys)

**Dr. Irwana Nainggolan**

Devi Shantini  
Produk: Milk Powder Quality Degradation Sensor

**Dr. Muhammad Irvanto Misrun**

Prof. Dr. R. Badlishah Ahmad  
PM Dr. Mohd. Fareq Abd. Malek  
Dr. Muzamir Isa  
Gomes Nair a/l Shasidharan  
Mohd. Irwan Yusoff  
Mahrizal Masri  
Produk: Transformerless Photovoltaic Inverter (TPVI) Using AC Load Interchange Controller

**Assoc. Prof. Dr. Yarub Al-Douri**

Safaa Idan Mohammed  
Prof. Dr. Uda Hashim  
Produk: Photodetectors Based-ZN Doped PBI2 Nanostructures

**Dr. Mohd. Afendi Rojan**

Muhammad Azrie Husainy Mohd. Jasri  
Izwati Basiron  
Siti Nurhashima Mohd. Isa  
Nor Bakyah Abu  
Dr. Nik Noriman Zolkepli  
Dr. Shuhaida Yahud  
Dr. Nasrul Amri Mohd. Amin  
Produk: New Adhesive From Recycled Polystyrene

**PM Ir. Dr. Anuar Mat Safar**

Prof. Dr. Syed Alwee Aljunid Syed Junid  
Dr. Mohd Rashidi Che Beson  
Siti Fatimah Harun  
Dr. Junita Mohd. Nordin  
Tengku Faslilidiana Tengku Putra  
Produk: Precise Gauging Structural Train Wheel Condition Monitoring

**PM Dr. Ir. Salmah Husseinsyah**

Chan Ming Yeng  
Koay Seong Chun  
Produk: Bioplast Corn Cob Film

**Farah Farhana Zainal**

Datuk Prof. Dr. Kamarudin Hussin  
Prof. Dr. Azmi Rahmat  
PM Dr. Mohd Mustafa Al Bakri Abdullah  
Shaiful Rizam Shamsuddin  
Produk: Fully Protected System For Reinforcement Bar In Geopolymer Concrete

**Dr. Latifah Munirah Kamarudin**

Noraini Azmi  
Dr. Ammar Zakaria  
Dr. Mohd. Najmuddin Mohd. Hassan  
Produk: C-SURF: Automated Channel Selection (ACS) in IEEE 802.15.4 WSN 2.4GHz ISM Spectrum For Coexistence Mitigation

**Noor Shazliana Aizee Abidin**

Mohd. Hishamuddin Che Mat  
Fathinul Syahir Ahmad Sa'ad  
Siti Nadherah Mohamad  
Produk: Comparing Of Physicochemical Properties Of Peel, Pulp and Seed Kernel Flour From Perlis Sunshine Mango Fruit

**Roshazita Che Amat**

Norlia Mohamad Ibrahim  
Nur Liza Rahim  
PM Dr. Khairul Nizar Ismail  
Dr. Khairel Rafezi Ahmad  
Produk: Bottom Ash Binder

**Pingat GANGSA:****Mohd. Irwan Yusoff**

Dr. Safwati Ibrahim  
Gomes Nair a/l Shasidharan  
Dr. Muhammad Irvanto Misrun  
Produk: PV/Wind Hybrid Inverter with Mitigation of Current Total Harmonic Distortion

**Dr. Mukhzeez Mohamad Shahimin**

Produk: Ameliorated Solar Cell

**PM Dr. Zainab Hamzah**

Faezah Ahmad  
PM Dr. Othman Hashim  
Ruzaini Abdullah  
Produk: Rapid and Solvent Free Extraction Of Oil Seed Crops Using Microwave Assisted Extraction

**Norlia Mohamad Ibrahim**

PM Dr. Khairul Nizar Ismail  
 Shamshinaz Salehuddin  
 Roshazita Che Amat  
 Mustaqqim Abdul Rahim  
 Nur Liza Rahim  
 Abdul Rahim Abdul Razak  
Produk: Innovative IBS Block

**Wee Fwen Hoon**

PM Dr. Mohd. Fares Abd. Malek  
 Lee Yeng Seng  
 Liew Hui Fang  
Produk: Dielectric Material Antenna for Transceiver Application (Di. MATA)

**Dr. Muammar Mohamad Isa**

Dr. Norhawati Ahmad  
Produk: Novel High Breakdown InGaAs / InAlAs pHEMT Device for High Power-Low Noise Applications

**Dr. Muzammil Jusoh**

Sahadah Ahmad  
 PM Dr. Mohd. Fares Abd. Malek  
 Che Muhammad Noor Che Isa  
 Dr. Abdul Hafizh Ismail  
 Shakhirul Mat Salleh  
Produk: WETEX-Wearable Textile Antenna

**Aimi Noorliyana Hashim**

Mohd Darus Daud  
Produk: Eco Activated Charcoal Fiber Sheet

**25<sup>TH</sup> INTERNATIONAL INVENTION,  
 INNOVATION & TECHNOLOGY  
 EXHIBITION (ITEX) 2014**

Pingat EMAS:

**PM Dr. Supri A. Ghani**  
 Mohd. Hanif Mohd. Pisaal  
 Fatimah Abd. Rajak  
 Mohd. Hishamuddin Che Mat  
Produk: UniMAP Biofiber Fertilizer

**Dr. Mohd. Najmuddin Mohd. Hassan**

Dr. Latifah Munirah Kamarudin  
 Dr. Ammar Zakaria  
 PM Mohabattulzaman SNS Bukhari  
 PM Dr. Mohammad Iqbal Omar  
 Kamarulzaman Kamarudin  
 Mohd Firdaus Ibrahim  
 Sukhairi Sudin  
Produk: HeWi Bridge : Compact Heterogenous Wireless Network Bridge for Healthcare Applications

**Prof. Dr. Uda Hashim**

Sharma Rao a/l Balakrishnan  
Produk: Pregnancy And Gestational Diabetic Quantitative Measurement Using Nano Lab-On-Chip For Prenatal Care

**PM Dr. Muhammad Syarhabil Ahmad**

Prof. Dr. Awang Soh Mamat  
 Dalila Nasshorudin  
Produk: Green Technology Solventless Extraction of Beneficial Essential Oils

**Dr. Layth Abdulkareem Hassanawi**

Prof. Dr. R. Badlishah Ahmad  
 Dr. Zaid Ghanim Ali  
 Dr. Muataz Hameed Salih  
Produk: A Newly Design Motorway Wireless Ad Hoc Camera Network System to Improve Physical Safety

**Dr. Noorhafiza Muhammad**

Mohd Shuhidan Saleh  
Produk: Multi-Phase Smoothed Particle Hydrodynamics (SPH) Modelling for Laser Micromachining

**Prof. Ir. Dr. Rezuwan Kamaruddin**

Dr. Mohd. Fariduddin Othman  
 Prof. Dr. Syed Alwee Aljunid Syed Junid  
 Dr. Naseer Sabri Salim  
 Hirun Azaman Ismail  
 Razif Omar  
Produk: Tropical Recirculating Aquaculture System for Commercial Marine Fish Production

**PM Dr. Hazry Desa**

Dr. Zuradzman Mohamad Razlan  
 PM Dr. Wan Khairunizam Wan Ahmad  
 Dr. Shahriman Abu Bakar  
 Khairul Azmir Azuddin  
 Muhammad Najib Khir Othman  
Produk: Sea-Eye Unmanned Surface Vehicle

**PM Dr. Yufridin Wahab**

Mazlee Mazalan  
 Ahmad Fitri Anuar Mahayudin  
 Fazmir Hamzah  
 Muhammad Zulhilmi Zainol  
 Shazlina Johari  
Produk: Wireless System Implementation for Piezoelectric Shoe in - Sole Pressure Sensor

**Dr. Muhammad Irwanto Misrun**

Gomesh Nair a/l Shasidharan  
 Mohd. Irwan Yusoff  
Produk: Photovoltaic - Uninterrupted Power Supply System (Photovoltaic-UPS System)

**Zarina Yahya**

PM Dr. Mohd Mustafa Al Bakri Abdullah  
 Datuk Prof. Dr. Kamarudin Hussin  
 PM Dr. Khairul Nizar Ismail  
 Rafiza Abdul Razak  
 Alida Abdullah  
Produk: From Waste to Wealth : Boiler Ash Geopolymer Composites

**PM Dr. Ir. Salmah Husseinsyah**

Chan Ming Yeng  
 Koay Seong Chun  
Produk: Green Organic Coupling Agent for Agro-Waste Plastic Composites

**Dr. Heah Cheng Yong**

Dr. Liew Yun Ming  
 PM Dr. Mohd Mustafa Al Bakri Abdullah  
 Datuk Prof. Dr. Kamarudin Hussin  
 PM Dr. Che Mohd. Ruzaidi Ghazali  
 Dr. Norazian Mohamed Noor  
 Alida Abdullah  
Produk: Fire-Shield Paint: A New Technology Approach

**Dr. Muhammad Zaini Ahmad**

Produk: A Numerical Algorithm for Computing The Solution Of Fuzzy Differential Equations

**Dr. Ragunathan A/L Santiago**

Allan Melvin A/L Andrew  
 Datuk Prof. Dr. Kamarudin Hussin  
 Sumathy A/P Muniandy  
Produk: ANCFreq: A Novel Active Noise Cancellation Frequency Analyser for Magnetic Resonance Imaging

**Noor Shazliana Aizee Abidin**

Produk: Novel Innovative Food Product from Perlis Sunshine Mango Flour made from Peel, Pulp and Kernel

**Baharuddin Ismail**

Prof. Dr. Syed Idris Syed Hassan  
 PM Dr. Rizalafande Che Ismail  
 Mohd. Syahril Noor Shah  
 Azralmukmin Azmi  
 Mohd. Hafiz Arshad  
 Mohamad Nur Khairul Hafizi Rohani  
 Muhammad Mokhzaini Azizan  
Produk: Three Phase Multilevel Inverter with Variable Frequency Output

**Mustaqqim Abdul Rahim**

Produk: Software Application to Compare Between British Standard (BS 5950-1:2000) and Eurocode 3 (EN 1993-1-1:2005) In Designing The Restrained Steel Beam

## SENARAI PENCAPAIAN PRODUK PENYELIDIKAN

**Dr. Kahtan S. Mohammed**

PM Dr. Mohd Mustafa Al Bakri Abdullah  
 Datuk Prof. Dr. Kamarudin Hussin  
 Ali Basheer Azeez  
 Dr. Nik Noriman Zulkepli  
 PM Dr. Che Mohd. Ruzaidi Ghazali  
Produk: Environment Friendly Anti-Radiation Vest for Protection Against Gamma Ray Photons

**Mohd. Irwan Yusoff**

Dr. Muhammad Irvanto Misrun  
 Gomesh Nair A/L Shasidharan  
 Leow Wai Zhe  
Produk: Automatic Cooling System Using PIC 16F877A for Solar Panel

**PM Dr. Zainab Hamzah**

Tengku Nur Atiqah Tengku Ab Mutalib  
 PM Dr Othman Hashim  
 Mohd. Hishamudin Che Mat  
Produk: Value Added Products from Active Ingredient In Herbal Extracts

**Alida Abdullah**

PM Dr. Mohd Mustafa Al Bakri Abdullah  
 Datuk Prof. Dr. Kamarudin Hussin  
 Muhd Izzat Ahmad  
 PM Dr. Che Mohd. Ruzaidi Ghazali  
 Romisuhani Ahmad  
 Nur Ain Jaya  
Produk: A Novel Geopolymer Ceramic Matrix Composite

**Mohammad Nuzaian Md. Nor**

Prof. Dr. Uda Hashim  
 Dr. Ruslinda A. Rahim  
 Dr. Mohd. Khairuddin Md. Arshad  
 Hasrul Hisham Che Ahmad  
Produk: Silicon Nanowires Array PH Sensor With Intergrated Microfluidic Channel

**Dr. Rozyanty Rahman**

Dr. Luqman Musa  
 Nur Firdaus Mohamed Yusof  
 Syed Zhafer Firdaus Syed Putra  
 Muhammad Faheem Mohd. Tahir  
Produk: Heavy Duty and Eco-Friendly Hybrid Composite

**Prof. Dr. Syed Alwee Aljunid Syed Junid**

PM Ir . Dr. Anuar Mat Safar  
 Dr. Mohd Rashidi Che Beson  
 Dr. Abdul Rahman Kram  
 Dr. Junita Mohd. Nordin  
 Tengku Faslilidiana Tengku Putra  
Produk: New Dual-Diffuser Modulation (DDM) FSO Modulation Technique for Agriculture Application

**Dr. Ruslinda A. Rahim**

Fatin Nabilah Mohd. Faudzi  
Produk: A Biosensor Test Kit For Early Detection of IV-1 TAT Protein Using MWCNTS

**Dr. Midhat Nabil Ahmad Salimi**

Produk: Novel Hydroxyapatite (HA)  
 Nanoparticles Production by Supercritical Carbon Dioxide for Drug Delivery Application (Potential For Various Cancer Treatments)

**Dr. Mohd. Nazrin Md. Isa**

Dr. Muhammad Imran Ahmad  
 Dr. Sohiful Anuar Zainol Murad  
 PM Dr. Rizalafande Che Ismail  
 Dr. Asral Bahari Jambek  
Produk: High Performance DNA Sequencer For Early Stage HIV Detection

**Dr. Shahriman Abu Bakar**

Lee Hoi Leong  
 Dr. Zuradzman Mohamad Razlan  
 Prof. Dr. Sazali Yaacob  
 PM Dr. Mohammad Iqbal Omar  
 PM Dr. Wan Khairunizam Wan Ahmad  
 PM Dr. Hazry Desa  
 Dr. Cheng Ee Meng  
 Dr. Mohd. Afendi Rojan  
 Dr. Siti Khadijah Za'aba  
 Dr. Shafriza Nisha Basah  
 Nazrul H. Adnan  
Produk: An Innovative Cost Effective Hemodynamic Assessment Tool with Real Time Situational Awareness and Critical Lifesaving Intelligence for Medical Specialists

**PM Ir. Dr. Anuar Mat Safar**

Prof. Dr. Syed Alwee Aljunid Syed Junid  
 Dr. Mohd Rashidi Che Beson  
 Dr. Junita Mohd. Nordin  
 Siti Fatimah Harun  
 Tengku Faslilidiana Tengku Putra  
Produk: ZCC-OCDMA Code for Symmetric FTTH in Access Network

**Dr. Asral Bahari Jambek**

PM Dr. Rizalafande Che Ismail  
 Dr. Mohd. Nazrin Md. Isa  
Produk: Low Energy Fast Motion Estimation Algorithm to Compress Video Data

**Dr. Norhawati Ahmad**

Dr. Muammar Mohamad Isa  
 Dr. Sohiful Anuar Zainol Murad  
Produk: High Accuracy Linear And Nonlinear Models for HEMT Devices

**PM Dr. Mohd. Fareq Abd. Malek**

Dr. Muhammed Sabri Salim  
 Dr. Naseer Sabri Salim  
Produk: Novel : Time Optimization Model For Centrifugation Process : Application In Human Blood-Plasma Segregation

**Dr. Junita Mohd. Nordin**

Prof. Dr. Syed Alwee Aljunid Syed Junid  
 PM Ir . Dr. Anuar Mat Safar  
 Dr. Mohd Rashidi Che Beson  
 Dr. Abdul Rahman Kram  
 Abdullah Omar Ali Al-Dhaibani  
 Tengku Faslilidiana Tengku Putra  
Produk: Hybrid Sub Carrier Multiplexing Flexible Cross Correlation (FCC) OCDMA Fibre-Wireless Access Network

**Dr. M Murugappan**

PM Dr. Mohammad Iqbal Omar  
Produk: Intelligent Sudden Cardiac Arrest (SCA) Prediction System Using ECG Signals

**Dr. Foo Kai Loong**

Prof. Dr. Uda Hashim  
Produk: A Novel Method to Manufacture Nanowire: Setting A New Benchmark for Ultrasensitive, Low Volume Detection

**Mukridz Md. Mohtar**

PM Dr. Mohd Mustafa Al Bakri Abdullah  
 Mohammad Tamizi Selimin  
 Muhammad Faheem Mohd. Tahir  
Produk: Geo-Clay Brick: Green Unfired Clay Geopolymer High Strength Brick

**Prof. Dr. Uda Hashim**

Produk: E-D Kit

**Liyana Jamaludin**

Datuk Prof. Dr. Kamarudin Hussin  
 Ali Basheer Azeez  
 Dr. Kahtan S. Mohammed  
 PM Dr. Mohd Mustafa Al Bakri Abdullah  
 PM Dr. Che Mohd. Ruzaidi Ghazali  
 Rafiza Abdul Razak  
Produk: Anti X-Ray Geopolymer Composite Material

**Dr. Mukhzeer Mohamad Shahimin**

Dr. Mohamad Halim Abd. Wahid  
Produk: Fibre Optic Based Structural Sensor

**Dr. Sam Sung Ting**

Dr. Nik Noriman Zulkepli  
 Dr. Mohd Firdaus Omar  
 Nuradibah Mohd. Amer  
 Ainatun Nadirah Azmi  
Produk: AGRINOPRO

**Muhammad Khairy Md. Naim**

Dr. Muhamad Saifuldin Abdul Manan  
 Ahmad Nabil Mohd. Khalil  
 Syedi Imran Mohd. Dawi  
 Mohd. Nazri Abd. Hamid  
 Mohd. Fairuz Abd. Karim  
Produk: Sri Weeder Machine

**Siti Salwa Mat Isa**

Muhammad Mahyiddin Ramli  
Produk: Wearable Gas Sensor Utilising Dye Functionalised Single Wall Carbon Nanotubes (SWCNT)

**Prof. Dr. Syed Alwie Aljunid Syed Junid**

PM Ir. Dr. Anuar Mat Safar  
 Dr. Mohd Rashidi Che Beson  
 Dr. Abdul Rahman Kram  
 Abdullah Omar Ali Al-Dhaibani  
 Dr. Hamza Mohammed Ridha Al-Khafaji  
 Tengku Fasilidiana Tengku Putra  
Produk: Modified Double Weight (MDW) Code for Automotive Industry Based on FPGA Platform

**Dr. Liu Wei Wen**

Prof. Dr. Uda Hashim  
 Haarindra Prasad  
 Veeradasan Perumal  
Produk: Nano DNA Lab-on-Chip Medical Diagnostic System for Multi Detection of Leptospirosis

**PM Dr. Mohd Mustafa Al Bakri Abdullah**

Sharifah Zaliha Syed Zuber  
 Datuk Prof. Dr. Kamarudin Hussin  
 Muhammad Faheem Mohd. Tahir  
 Noor Fifinatasha Shahedan  
 Dr. Norazian Mohamed Noor  
 Prof. Dr. Fauziah Ahmad  
Produk: Geopolymerization Technology for Soil Stabilization Application

**Dr. Mohd. Khairuddin Md Arshad**

Produk: Asymmetrical Double Gate : Significant Improvement In Ultra - Scaled SOI Mosfets

**Shayfull Zamree Abd. Rahim**

Mohd. Nasir Mat Saad  
 Mohd. Fathullah Ghazli@Ghazali  
 Irfan Abd. Rahim  
 Muhamad Farizuan Rosli  
 Mohd. Effendi Muhammad Suandi  
Produk: A Design Of Conformal Cooling Channels (Milled Groove Square Shape) in Injection Molding Processes

**Noorina Hidayu Jamil**

Wan Mohd. Arif W. Ibrahim  
 Faizul Che Pa  
 Ruhiyuddin Mohd. Zaki  
 Shahrizam Saad  
 Murizam Darus  
 Mohamed Faisol Mohamed Nor  
Produk: CERA-COOL

**PM Dr. Rizalafande Che Ismail**

Dr. Sohiful Anuar Zainol Murad  
 Dr. Mohd. Nazrin Md. Isa  
 Dr. Phak Len A/L Ehkan  
 Fazrul Faiz Zakaria  
Produk: High Performance Video Graphic Architecture Using Hybrid Logarithmic Number System

**Dr. Voon Chun Hong**

Prof. Dr. Uda Hashim  
 Tijjani Adam  
 Mohaimen Wesam  
Produk: Lab-On-A-Chip Devices for Point-Of Care In-Vitro Diagnosis: Induced Partial Charge Calculation And Ssdna Hybridization In Nanowire Active Domain Via MD And Comsol Multi-Physics

**Dr. Mohd Hafiz Fazalul Rahiman**

Produk: Smart Column Imager

**Dr. Sohiful Anuar Zainol Murad**

Dr. Mohd. Nazrin Md. Isa  
 PM Dr. Rizalafande Che Ismail  
 Mohd. Fairus Ahmad  
 Dr. Norhawati Ahmad  
Produk: High Linearity On-Chip Mixer For 4G LTE Wireless Communication

**Dr. M. Murugappan**

R Yuvaraj  
Produk: A Software Prototype Based Emotional Impairments Detection In Neurological Disorders Patients Using Wireless EEG Signals

**Aimi Noorliyana Hashim**

Noor Mariamadzliza Mohd. Nan  
Produk: Alkali Activated Slag Cement for Sustainable Development

**Pingat PERAK:**

**Dr. Nik Noriman Zulkepli**  
 Dr. Sam Sung Ting  
 Dr. Mohd Firdaus Omar  
 Nik Zakaria Nik Yahya  
 Ahmad Azrem Azmi  
Produk: I-ACVON

**Dr. Norsuria Mahmed**

Produk: Multifunctional Magnetic Core Nanoparticles

**Wan Shahrizal Wan Nadhari**

Produk: Hydrogen Fuel Cell Powered Electric Vehicle

**Ahmad Nabil Mohd. Khalil**

Dr. Muhamad Saifuldin Abdul Manan  
 Mohd. Syedi Imran Mohd. Dawi  
 Muhammad Khairy Md. Naim  
 Mohd. Nazry Mat Nayan  
 Mohd. Nazri Abdul Hamid  
 Muhamad Fairuz Abdul Karim  
Produk: Portable Organic Paddy Weeder Machine

**Mohd. Hafiz Arshad**

Baharuddin Ismail  
 Azralmukmin Azmi  
 Dr. Muzamir Isa  
 Mohd. Zulhisham Mohd. Radzi  
 Mohd. Syahril Noor Shah  
Produk: Single Phase Multilevel Cascaded Inverter with SHEPWM Switching Technique

**Assoc. Prof. Dr. Yarub Al-Douri**

Authman Salim Ibraheam  
Produk: Cu<sub>2</sub>Zn<sub>1-x</sub>CdxSnS<sub>4</sub> Nanostructures to Ameliorate Solar Cell Efficiency

**Shaiful Rizam Shamsudin**

Rohaya Abdul Malek  
 Prof. Dr. Azmi Rahmat  
 Dr. Nazree Derman  
 Farah Farhana Zainal  
Produk: External Galvanic Powering System for Corrosion Protection

**Dr. Mohd. Shukry Abdul Majid**

Dr. Mohd. Afendi Rojan  
 Dr. Ruslizam Daud  
 Pranesh Krishnan Ragunathan  
 Haslan Fadli Marzuki  
 Wan Shahrizal Wan Nadhari  
 Siti Nazirah Zamri  
Produk: An Automatic Portable Pressure Testing Rig to Determine The Performance of Gre Composite Pipes Under Various Stress Ratios

**Ahmad Nabil Mohd. Khalil**

Dr. Muhamad Saifuldin Abdul Manan  
 Leong Kean Wei  
 Mohd. Nazry Mat Nayan  
Produk: My Batik Arts Machine

**SENARAI PENCAPAIAN PRODUK PENYELIDIKAN**

**Dr. Umi Fazara Md. Ali**  
 Tan Tieck Aun  
Produk: PEC-HEMATITE

**Dr. Hanum Hassan**  
 PM Razli Ahmad  
 Helmi Halim  
Produk: Modul Menjana Pemimpin Glokal

**Dr. Teh Pei Leng**  
 Dr. Yeoh Cheow Keat  
 PM Dr. Supri A. Ghani  
 PM Ir. Dr. Salmah Husseinsyah  
 Dr. Du Ngoc Vu Lan  
 Mohamad Nur Fuadi Pargi  
Produk: EPOXY - Recycled Copper (E-Recop)  
 As Thermoforming Mold Material

**Mohd. Fidzwan Md Amin Hamzas**  
 Azmi Harun  
 Asmawi Sanuddin  
 Prof. Dr. Ryspek Usabamatov  
 Mohd. Nazry Mat Nayan  
Produk: New Design of Washing Machine: A New Washing Process Which Combines Deflection and Abrasion Action Due to The Hydrodynamic and Impact Water Jet

**Dr. Mohd. Afendi Rojan**  
 Muhammad Azrie Husainy Mohd. Jasri  
 Erdy Sulino Mohd. Muslim Tan  
 Dr. Haftirman  
 Dr. Mohd. Shukry Abdul Majid  
 Dr. Ruslizam Daud  
 Dr. Shahriman Abu Bakar  
Produk: Compact Micro-Flexural Fatigue Testing Machine

**Pingat GANGSA:**  
  
**Mohd Khairul Fadzly Abu Bakar**  
 Amarul Talip  
 Shayfull Zamree Abd. Rahim  
 Mohd. Nasir Mat Saad  
 Mohd. Fidzwan Md. Amin Hamzas  
 Norshah Afizi Shuaib  
 Badrul Azmi Abdul Holed  
 Irfan Abd. Rahim  
Produk: GSM X1 Smart Home Automation System

**MALAYSIAN ROAD CONFERENCE - INVENTION AND INNOVATION EXHIBITION (MRC-IIIE) 2014****Pingat EMAS:**

**Sharifah Zaliha Syed Zuber**  
 PM Dr. Mohd Mustafa Al Bakri Abdullah  
 Datuk Prof. Dr. Kamarudin Hussin  
 PM Dr. Che Mohd. Ruzaidi Ghazali  
 Prof. Dr. Fauziah Ahmad  
 Muhammad Faheem Mohd. Tahir  
 Dr. Norazian Mohamed Noor  
Produk: Gold - Soil Treatment and Stabilization for Soil Foundation Road

**Pingat GANGSA:**

**Rafiza Abdul Razak**  
 PM Dr. Mohd Mustafa Al Bakri Abdullah  
 Datuk Prof. Dr. Kamarudin Hussin  
 PM Dr. Che Mohd Ruzaidi Ghazali  
 PM Dr. Khairul Nizar Ismail  
 Zarina Yahya  
Produk: Geopolymer Artificial Aggregate As Road Based Application

**Muhammad Faheem Mohd. Tahir**  
 PM Dr. Mohd Mustafa Al Bakri Abdullah  
 Datuk Prof. Dr. Kamarudin Hussin  
 PM Dr. Che Mohd Ruzaidi Ghazali  
 Wan Mastura Wan Ibrahim  
Produk: Geopolymer Concrete for Sidewalk : Towards Green Construction Materials

**INNOVATION FESTIVAL 2014****Pingat EMAS:**

**Dr. Mohd. Afendi Rojan**  
 Muhammad Azrie Husainy Mohd. Jasri  
Produk: New Adhesive From Recycle Polystyrene

**Dr. Mohd. Afendi Rojan**  
 Muhammad Azrie Husainy Mohd. Jasri  
Produk: Portable Friction Stir Welding Machine

**PAMERAN BIOMALAYSIA 2014****Pingat EMAS:**

**Prof. Dr. Uda Hashim**  
 Nor Azizah Parmin  
 Sharipah Nadzirah Syed Ahmad Ayob  
 Tijjani Adam  
Produk: Nano DNA Chips for Early Detection of Cervical Cancer

**Prof. Ir. Dr. Rezuwan Kamaruddin**

Datuk Prof. Dr. Kamarudin Hussin  
 PM Dr. Mahmad Nor Jaafar  
 Mohd. Hishamuddin Che Mat  
 Ahmad Azudin Nordin  
Produk: Large-Scale Naturally Ventilated Tropical Greenhouse Structure for Commercial Harumanis Production In Perlis

**Pingat PERAK:**

**Dr. Ragunathan A/L Santiagoo**  
 Mustaffa Zainal  
 Allan Melvin A/L Andrew  
 Sumathy A/P Muniandy  
Produk: Super-UHLM: Ultimate-Herbal Larvacide Membrane for Denggi Fewer Preve

**Dr. Lim Bee Ying**

PM Dr. Ir. Salmah Husseinsyah  
 Dr. Teh Pei Leng  
 Marliza Mostapha @ Zakaria  
 Mohd. Syahmie Rasidi  
Produk: Ecoplast Palm Kernel Shell

**Dr. Midhat Nabil Ahmad Salimi**

Produk: ENVIRO-FUEL™: An Alternative Fuel For The Future (Waste To Wealth)

**PM Dr. Wan Khairunizam Wan Ahmad**

PM Dr. Hazry Desa  
 Dr. Shahriman Abu Bakar  
 Dr. Zuradzman Mohamad Razlan  
Produk: GLOVEMAP-VR Stroke Therapy Based on The Motion Sequence of Arm Movements

**Pingat GANGSA:**

**PM Dr. Che Mohd. Ruzaidi Ghazali**  
 Siti Nor Jamaliah Md. Radzi  
Produk: The Novel Usage Of Phoenix Dactylifera (Palm Date) Seeds

**PM Dr. Supri A. Ghani**

Mohd. Hanif Mohd. Pisal  
 Ho Shuh Huey  
 Tan Soo Jin  
Produk: 2 IN 1 Adhesives Based On Chicken Feather

**Dr. Mohd Firdaus Omar**

Prof. Hazizan Md Akil  
 Dr. Nik Noriman Zulkepli  
 Muhammad Salihin Zakaria  
 Dr. Sam Sung Ting  
Produk: Eco-Drain: Eco-Friendly Lightweight Honeycomb Drainage Structures

**Wan Mohd. Arif W. Ibrahim**

Noorina Hidayu Jamil  
 Faizul Che Pa  
 Ruhiyuddin Mohd. Zaki  
 Shahrizam Saad  
 Murizam Darus  
 Mohamed Faisol Mohamed Nor  
Produk: Ceraden-Agriglass: A Ceramic Block Material For Solid Crown/Bridge Dental Restoration Application

**PM Dr. Zainab Hamzah**

Ainatul Alia Alias  
**PM Dr. Othman Hashim**  
Produk: Paddy Waste Biochar Enhances Paddy Growth

**Azmi Harun**

Asmawi Sanuddin  
 Mohd. Fidzwan Md. Amin Hamzas  
 Suhelmi Wi @ Senawi  
 Rashid Ramli  
 Mohd. Nazmi Mohammad Radzi  
Produk: Coconut De-Husking & De-Shelling Machine

**Zarina Zakaria**

Noorulnajwa Diyana Yaacob  
 Sharul Aida Mohd. Shayuti  
 Shi Fern Chong  
Produk: HR-OYSEED™ SPAWN : High Recovery Of Preserved Oyster Mushroom Spawn

**Dr. Sam Sung Ting**

Dr. Nik Noriman Zulkepli  
 Mohd. Firdaus Omar  
 Ainatun Nadirah Azmi  
 Nuradibah Mohd. Amer  
Produk: OXOGREEN

**ASIA PACIFIC ICT AWARDS (APICTA) 2014**

**Pingat EMAS:**

**Prof. Dr. Syed Alwie Aljunid Syed Junid**  
**PM Ir. Dr. Anuar Mat Safar**  
 Dr. Mohd Rashidi Che Beson  
 Mr. Abdullah Omar Ali Al-Dhaibani  
 Ir. Rosdisham Endut  
 Tengku Fasilitidiana Tengku Putra  
Produk: ZCC-OCDMA Code for Symmetric FTTH in Access Network

**MALAYSIAN AGRICULTURAL INNOVATION CHALLENGE MAGIC 2014**

**Pingat EMAS:**

**PM Dr. Mohd Fares Abd. Malek**

Lee Yeng Seng  
 Muhammad Shafiq Mezan  
Produk: Rice Husks Microwave Absorbers

**Pingat PERAK:**

**Dr. Nik Noriman Zulkepli**  
**PM Dr. Mohd Mustafa Al Bakri Abdullah**  
 Mohamad Hazwan Subli  
 Datuk Prof. Dr. Kamarudin Hussin  
Produk: AGRINOPRO - Agricultural Film Using Natural Resources As Green Pro-Oxidant



# PENYELIDIKAN DAN PEMBANGUNAN

## GERAN PENYELIDIKAN

Pada tahun 2014, UniMAP telah mencatatkan nilai geran penyelidikan sebanyak RM14,831,160 yang melibatkan 220 projek penyelidikan berbanding pada tahun lepas iaitu sebanyak 197 projek sahaja. Peningkatan ini menunjukkan usaha positif para penyelidik UniMAP dalam mendapatkan geran bagi menjayakan projek yang dilaksanakan. Geran – geran tersebut adalah terdiri daripada:-

- i. Kementerian Pendidikan Malaysia (Jabatan Pengajian Tinggi) dan Kementerian Sains, Teknologi dan Inovasi Malaysia.
- ii. Industri; Yayasan Felda, Astronautic, PNB, Bio-nexus, L'Oreal dan lain-lain lagi.

iii. Antarabangsa; UNESCO, KACST, Nihon Superior Japan, Kobe Precision, Aneka Teknik Indonesia dan Victoria University.

Nilai terkumpul geran penyelidikan UniMAP semenjak tahun 2003 hingga 2014 adalah sebanyak RM919.9 juta. Geran yang dibiayai oleh pihak kerajaan adalah penyumbang terbesar iaitu sebanyak RM73.6 juta. Manakala selebihnya disumbangkan oleh pelbagai industri dan antarabangsa iaitu berjumlah RM6.4 juta dan RM3.7 juta. Selain itu, pihak UniMAP juga telah memperuntukkan sebanyak RM8.3 juta sebagai geran dalaman sehingga tahun 2014.

### Statistik Geran Penyelidikan 2003-2014 : Mengikut Pusat Tanggungjawab (PTj)

TAHUN	2003		2004		2005		2006		2007		2008		2009		2010		2011		2012		2013		2014		Nilai Keseluruhan		
	PPK/PTj	Bil	(RM)	Bil	(RM)	Bil	(RM)	Bil	(RM)	Bil	(RM)	Bil	(RM)	Bil	(RM)	Bil	(RM)	Bil	(RM)	Bil	(RM)	Bil	(RM)	Bil	Amaun (RM)		
Mikroelektronik	2	42,530	2	2,788,336	6	126,000	9	121,672	11	1,666,417	8	398,000	10	174,000	14	475,520	16	2,907,400	14	602,723	15	1,099,000	15	1,019,980	122	11,421,578	
Sistem Elektrik					1	20,000	9	144,500	11	574,500	9	140,000	2	17,000	19	509,900	37	2,454,022	27	1,400,212	12	932,435	9	513,775	136	6,706,344	
Komputer	1	20,000	5	97,250	5	95,800	16	421,000	10	950,262	17	958,700	9	282,200	24	1,170,430	18	541,550	19	904,349	18	1,677,457	26	1,892,660	168	9,011,658	
Mekatronik	1	20,000	2	60,000	5	100,000	36	1,330,000	26	2,612,970	17	1,126,690	9	347,800	42	1,146,000	28	1,212,373	22	978,721	33	1,838,380	36	2,333,184	257	13,106,117	
Bahan	3	54,000	2	50,000	10	205,500	21	712,611	10	1,045,505	8	555,662	14	567,000	29	2,230,520	23	394,000	41	2,102,295	31	1,934,280	39	2,261,500	231	12,112,872	
Pembuatan			2	38,000	3	27,100	6	78,300	7	675,700	10	91,000	7	89,000	21	706,050	16	170,400	21	758,222	7	266,450	14	778,200	114	3,678,422	
Bioproses			1	6,038	3	289,000	12	744,945	7	1,108,500	9	238,850	10	896,840	16	249,720	15	745,500	25	1,774,236	19	1,607,955	22	1,470,180	139	9,131,765	
Alam Sekitar	1	10,000		1	16,000	11	390,950	11	648,600	6	58,462	6	105,000	14	412,700	12	259,368	16	545,593	13	781,760	14	986,975	105	4,215,408		
iKOM	1	15,000	5	67,254	1	8,740	2	50,042	4	132,842	5	399,608	6	289,146	32	319,500	15	218,000	4	150,585	8	819,405	3	99,000	86	2,569,122	
IMK							1	12,842	4	42,980	1	10,000	7	48,000	20	480,000	7	312,909	6	246,200	6	265,200	52	1,418,131			
INEE								1	5,000	8	1,128,586	5	309,260	6	1,258,460	3	274,400	10	531,500	10	1,058,300	43	4,565,506				
P. Kejuruteraan									1	11,000														1	11,000		
IKSK																1	30,800	1	500,000	1	15,000			3	545,800		
AGROTECH														1	94,900	1	40,000	1	319,000	1	100,700	1	40,000			5	594,600
PPIPT															2	12,000	15	1,485,149	4	107,103	6	1,619,872	1	90,000	28	3,314,124	
CEASTech																		18	1,644,730	9	818,700	9	873,847	36	3,337,277		
CeGeoGTech																			7	2,169,420	3	352,000	10	2,521,420			
AMBIENCE COE																			1	2,900,000			1	2,900,000			
FTK																						12	751,700	12	751,700		
RPPIT																							1	84,660	1	84,660	
Jumlah	9	161,530	19	3,106,878	35	888,140	122	3,994,020	98	9,428,138	94	4,014,952	85	4,043,272	226	7,629,600	222	12,445,222	223	12,156,777	197	19,297,814	220	14,831,160	1,550	91,997,503	

# PENYELIDIKAN DAN PEMBANGUNAN

GERAN PENYELIDIKAN TERKUMPUL UniMAP (2003-2014)

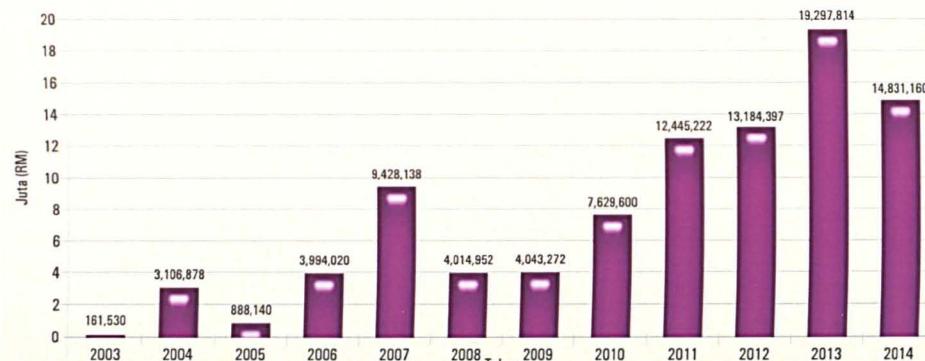
JENIS GERAN	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Nilai Keseluruhan	
	Amaun (RM)	Amaun (RM)	Amaun (RM)	Amaun (RM)	Amaun (RM)	Amaun (RM)	Amaun (RM)	Amaun (RM)	Amaun (RM)	Amaun (RM)	Amaun (RM)	Amaun (RM)	Amaun (RM)	
Kerajaan	FRGS	121,530	92,038	392,140	1,712,000	4,148,226	1,170,100	722,546	3,861,930	1,903,213	2,975,000	4,943,505	79,922	22,122,150
	ERGS									925,200	1,158,635	992,800	150,000	3,226,635
	PRGS									822,700	696,000	912,000	191,834	2,622,534
	LRGS									450,000			528,000	978,000
	RACE									271,350			681,317	952,667
	RAGS									1,800,000	1,799,972			3,599,972
	KTP								418,160	1,235,782	939,000	84,660		2,677,602
	MOA						1,254,820	202,000				926,280		2,383,100
	MTUN COE									1,184,600		933,000		2,117,600
	Swiftlet COE									100,700		9,289,806		9,390,506
	Geran Khas KPT					350,000	170,000	27,300	160,000		1,900,000			2,607,300
	IRPA	2,805,890	253,000											3,058,890
	Sciencefund			1,405,500	5,249,912	1,655,390	640,106	170,510	610,000	997,910	1,020,917	741,400		12,491,645
	Nanofund									921,000				921,000
	Unisel (MOSTI)					90,000								90,000
	USM-UniMAP (MOSTI)					150,000								150,000
	MOA Technofund						432,500	823,362						1,255,862
	Cradle Fund								150,000					150,000
	Suruhanjaya Komunikasi & Multimedia								421,500					421,500
	Jabatan Ketua Menteri Sarawak								951,799					951,799
	Geran Sukan KPT									295,000				295,000
	Fundamental (Top Down)									597,000				597,000
	Jabatan Latihan Khidmat Negara								44,600					44,600
UniMAP	Kerajaan Negeri Perlis								500,000					500,000
	MTUN Showcase									20,000				20,000
	Short Term Grant	40,000	208,950	243,000	606,020	30,000	514,482	736,800	1,086,000	1,138,050	32,200			4,635,502
	Kumpulan Wang Penyelidikan Khas							120,000	189,360	255,238		215,700	30,000	810,298
	Tabung Insentif Jurnal Penyelidikan							135,000	165,000	180,000	445,000	825,000		1,750,000
UniMAP	Insentif SLAB/SLAI								20,000		40,000	120,000		180,000
	SEED Money									885,000				885,000

# PENYELIDIKAN DAN PEMBANGUNAN

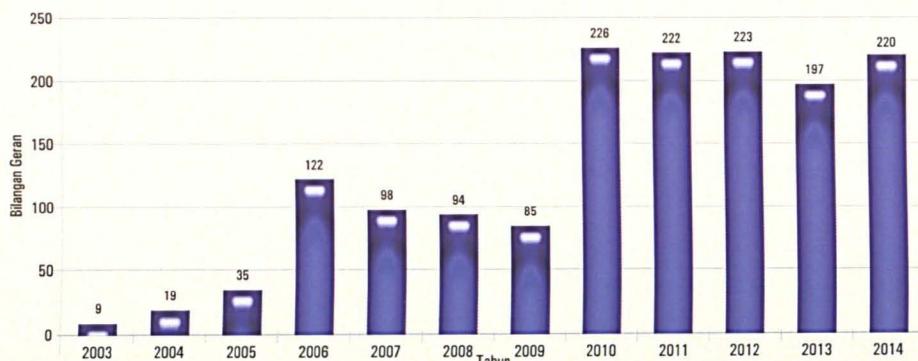
## GERAN PENYELIDIKAN TERKUMPUL UniMAP (2003-2014)

JENIS GERAN	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Nilai Keseluruhan	
	Amaun (RM)	Amaun (RM)	Amaun (RM)	Amaun (RM)	Amaun (RM)	Amaun (RM)	Amaun (RM)	Amaun (RM)	Amaun (RM)	Amaun (RM)	Amaun (RM)	Amaun (RM)	Amaun (RM)	
Industri & Agensi	Yayasan FELDA			209,000									209,000	
	Astronautic			61,500									61,500	
	PNB					59,980							59,980	
	Pusat Zakat Pulau Pinang				25,000								25,000	
	Bio Nexus					399,000							399,000	
	L'Oreal						20,000	20,000	20,000	30,000		90,000		
	Siltera / NCIA						2,270,000			2,900,000			5,170,000	
	National Instrument							50,000					50,000	
	CIMB Foundation									47,500			47,500	
	Funfiek Sdn Bhd								30,000				30,000	
	I-Zest Sdn Bhd								35,000				35,000	
	SME Bank								40,000				40,000	
	Toray (MTSF)						20,000	15,000		18,000			53,000	
	B. Brown										121,941		121,941	
Antarabangsa	UNESCO					25,000							25,000	
	KACST						1,500,000			1,784,420			3,284,420	
	Victoria University							10,000					10,000	
	Nihon Superior Japan								120,000				120,000	
	KOBE Precision								200,000				200,000	
	Aneka Teknik, Indonesia									80,000			80,000	
<b>Jumlah</b>		<b>161,530</b>	<b>3,106,878</b>	<b>888,140</b>	<b>3,994,020</b>	<b>9,428,138</b>	<b>4,014,952</b>	<b>4,043,272</b>	<b>7,629,600</b>	<b>12,445,222</b>	<b>12,156,777</b>	<b>19,297,814</b>	<b>14,831,160</b>	<b>91,997,503</b>

Jumlah Nilai Geran Penyelidikan Tahunan 2003-2014



Bilangan Geran Penyelidikan Universiti Malaysia Perlis 2003-2014



## HARTA INTELEK

### A) STATISTIK HARTA INTELEK UNIVERSITI MALAYSIA PERLIS (UniMAP) 2009-2014

Statistik Harta Intelek Universiti Malaysia Perlis (UniMAP) dari tahun 2009 hingga Disember 2014:

Jenis Harta Intelek	Negara	2009	2010	2011	2012	2013	2014	Jumlah
<b>Geran Paten (Patent Granted)</b>	Malaysia	0	0	0	0	1	0	1
	Antarabangsa	0	0	0	1	1	0	2
<b>Paten Difailkan (Patent Pending)</b>	Malaysia	7	3	12	23	18	37	100
	Antarabangsa	0	0	1	1	0	0	2
<b>Hak Cipta (Copy Right)</b>	Malaysia	0	0	4	5	0	0	9
	Antarabangsa	0	0	1	2	1	1	5
<b>Jumlah Keseluruhan</b>		<b>7</b>	<b>3</b>	<b>18</b>	<b>32</b>	<b>21</b>	<b>38</b>	<b>119</b>

### B) PRODUK YANG TELAH MENJALANI CARIAN NOVELTI (NOVELTY SEARCH) 2014

Statistik Bilangan Produk Yang Telah Menjalani Carian Novelty (Novelty Search) 2009-2014

Perkara	Pencapaian 2009	Pencapaian 2010	Pencapaian 2011	Pencapaian 2012	Pencapaian 2013	Pencapaian 2014
Bilangan Produk Yang Telah Menjalani Carian Novelty	68	22	94	92	90	84

#### Senarai Produk Yang Telah Menjalani Carian Novelty (Novelty Search) 2014

Nama Penyelidik: Dr. Latifah Munirah Kamarudin  
Nama Produk: Automated Channel Selection (ACS) In IEEE 802.15.4 Wsn 2.4ghz ISM Spectrum For Coexistence Mitigation

Nama Penyelidik: Dr. Mohd Firdaus Omar  
Nama Produk: Pulfmap

Nama Penyelidik: Aimi Noorliyana Hashim  
Nama Produk: Eco Activated Charcoal Fiber Sheet

Nama Penyelidik: Gomesh Nair a/l Shasidharan  
Nama Produk: Fabrication Of DSSC With A Novel Organic Dye From 'Keriang Dot' Fruit

Nama Penyelidik: Prof. Dr. Uda Hashim  
Nama Produk: Fabrication Of Silicon Nanogap For E.Coli (0517:H7)

Nama Penyelidik: Dr. Hakimah Osman  
Nama Produk: Maturation Free Process In Natural Rubber Latex Operations

Nama Penyelidik: Noor Shazliana Aizee Abidin  
Nama Produk: Comparing Physicochemical Properties Of Mango Peel, Pulp And Seed Kernel Flour Prepared From Ripe And Unripe Fruits

Nama Penyelidik: Prof. Madya Dr. Zainab Hamzah  
Nama Produk: Bird Nest

Nama Penyelidik: Wee Fwen Hoon  
Nama Produk: Bit Antenna

Nama Penyelidik: Prof. Ir. Dr. Rezuwan Kamaruddin  
Nama Produk: Fertigation System For High Value Crop Production Under Greenhouse In Tropics

Nama Penyelidik: Dr. Amir Razif Arief Jamil Abdullah  
Nama Produk: Novel FIWI Utilizing Modified Double Weight OCDMA Code For Future Broadband Access Network

Nama Penyelidik: Prof. Dr. Syed Alwee Aljunid Syed Junid  
Nama Produk: FCC-OCDMA Code For FTTH Access Network Utilizing FPGA Based

Nama Penyelidik: Dr. M Murugappan  
Nama Produk: Intelligent System For Home Appliances Control Through Facial Expressions Using Optical Flow Algorithm

Nama Penyelidik: Dr. Mohd Afendi Rojan  
Nama Produk: New Adhesive From Recycle Polystyrene

Nama Penyelidik: Prof. Madya. Dr. Abu Hassan Abdullah  
Nama Produk: Aromatic Rice Classification System (ARCSYS)

Nama Penyelidik: Roshazita Che Amat  
Nama Produk: Bottom Ash Binder

Nama Penyelidik: Ir. Dr. Anuar Mat Safar  
Nama Produk: Train Passenger Estimation Using Fiber Bragg Grating Sensor

Nama Penyelidik: Prof. Madya Dr. Supri A. Ghani  
Nama Produk: Cellulose-Glycosilic From Colocasia Esculenta As Reinforced In Light Weight Plate

Nama Penyelidik: Dr. Muammar Mohamad Isa  
Nama Produk: Novel High Breakdown Ingaas/Inalas pHEMT Device For High Power - Low Noise Applications

Nama Penyelidik: Dr. Muzammil Jusoh  
Nama Produk: WETEX – Wearable Textile Antenna

## HARTA INTELEK

Nama Penyelidik: Norlia Mohamad Ibrahim  
Nama Produk: Innovative IBS Block

Nama Penyelidik: Dr. Mohd Shukry Abdul Majid  
Nama Produk: Mechanical Properties Characterization Of Novel Napier Grass Fiber Reinforced Epoxy Composites Laminates

Nama Penyelidik: Ahmad Nabil Mohd Khalil  
Nama Produk: My Batik Arts Machine

Nama Penyelidik: Baharuddin Ismail  
Nama Produk: Three Phase Multilevel Inverter With Variable Frequency Output

Nama Penyelidik: Dr. Amir Razif Arief Jamil Abdullah  
Nama Produk: New Dual-Diffuser Modulation Technique Utilizing Free Space Optic (DDM-FSO) For Agriculture Application

Nama Penyelidik: Ir. Dr. Anuar Mat Safar  
ZCC-OCDMA Code For Symmetric FTTH In Access Network

Nama Penyelidik: Prof. Madya Ir. Dr. Salmah Husseinsyah  
Nama Produk: Green Organic Coupling Agent for Agro-Waste Plastic Composites

Nama Penyelidik: Dr. Junita Mohd Nordin  
Nama Produk: Hybrid Subcarrier Multiplexing Flexible Cross Correlation (FCC) OCDMA Fiber-Wireless Access Network

Nama Penyelidik: Dr. Liu Wei Wen  
Nama Produk: Nano DNA Lab On Chip Medical Diagnostics Systems For Multi Detection Of Leptospirosis

Nama Penyelidik: Dr. M. Murugappan  
Nama Produk: Intelligent Sudden Cardiac Arrest (SCA) Prediction System Based On Heart Rate Variability (HRV) Signals

Nama Penyelidik: Dr. M. Murugappan  
Nama Produk: A Software Prototype Based Emotional Impairments Detection In Neurological Disorders Patients Using Wireless EEG Signals

Nama Penyelidik: Dr. Mohd Khairuddin Md Arshad  
Nama Produk: Asymmetrical Double Gate: Significant Improvement In Ultra – Scaled SOI MOSFETS

Nama Penyelidik: Dr. Mohd Shukry Abdul Majid  
Nama Produk: An Automatic Portable Pressure Testing Rig To Determine The Performance Of The Composite Pipes Under Various Stress Ratios

Nama Penyelidik: Dr. Muhammad Zaini Ahmad  
Nama Produk: A Numerical Algorithm For Computing The Solution Of Fuzzy Differential Equations

Nama Penyelidik: Dr. Norsuria Mohamed  
Nama Produk: Multifunctional Magnetite/Silica/Silver/Silver Chloride Core Shell Structure And Methods Of Preparation.

Nama Penyelidik: Dr. Ragunathan a/l Santiago  
Nama Produk: ANCFreq: A Novel Active Noise Cancellation Frequency Analyzer For Magnetic Resonance Imaging.

Nama Penyelidik: Dr. Sohiful Anuar Zainol Murad  
Nama Produk: High Linearity On-Chip Mixer For 4G LTE Wireless Communication

Nama Penyelidik: Prof. Madya Dr. Supri A.Ghani  
Nama Produk: UniMAP Biofiber Fertilizer

Nama Penyelidik: Dr. Teh Pei Leng  
Nama Produk: Epoxy- Recycled Copper (E-RECOP) as Thermoforming Mold Material

Nama Penyelidik: Mohd Hafiz Arshad  
Nama Produk: Single Phase Multilevel Cascaded Inverter with SHEPWM Switching Technique

Nama Penyelidik: Mohd Khairul Fadzly Abu Bakar  
Nama Produk: GSM X1 Smart Home Automation System

Nama Penyelidik: Prof. Ir. Dr. Rezuwan Bin Kamaruddin  
Nama Produk: Tropical Recirculating Aquaculture System For Commercial Marine Fish Production

Nama Penyelidik: Prof. Dr. Syed Alwee Aljunid Syed Junid  
Nama Produk: Modified Double Weight (MDW) Code For Automotive Industry Based On FPGA Platform

Nama Penyelidik: Prof. Dr. Uda Hashim  
Nama Produk: E.D Kit

Nama Penyelidik: Dr. Voon Chun Hong  
Nama Produk: Lab-On-A-Chip Devices For Point-Of-Care In-Vitro Diagnosis: Induced Partial Charge Calculation And SSDNA Hybridization In Nanowire Active Domain Via MD and COMSOL Multi-Physics

Nama Penyelidik: Shayfull Zamree Abd Rahim  
Nama Produk: A New Design Of Conformal Cooling Channels (Milled Groove Square Shape) In Injection Molding Processes

Nama Penyelidik: Dr. Noorhafiza Muhammad  
Nama Produk: Multi-Phase Smooth Particle Hydrodynamics (SPH) Modeling For Laser Micromachining

Nama Penyelidik: Mustaqqim Abdul Rahim  
Nama Produk: The Application For Design The Restrained Structural Steel Beam By Using British Standard (BS 5950) And Euro code 3 (Ec3)

Nama Penyelidik: Dr. Mohd Afendi Rojan  
Nama Produk: Compact Flexural Fatigue Testing Machine

Nama Penyelidik: Dr. Nik Noriman Zulkepli  
Nama Produk: I-ACVON

Nama Penyelidik: Prof. Madya Dr. Zainab Hamzah  
Nama Produk: Antifungal And Antibacterial Skin Patch From Selected Herbal Extract

Nama Penyelidik: Mohd Fidzwan Md Amin Hamzas

Nama Produk: New Design Of Washing Machine : A New Washing Process Which Combines Deflection And Abrasion Action Due To The Hydrodynamic And Impact Water Jet

Nama Penyelidik: Prof. Madya Dr. Fareq Abdul Malek  
Nama Produk: Time Optimization Model for Centrifugation Process: Application In Human Blood-Plasma Segregation

Nama Penyelidik: Khairy Md Naim  
Nama Produk: SRI-Triple Row Weeder Machine

Nama Penyelidik: Dr. Shahriman Abu Bakar  
Nama Produk: i-PHAD: An Innovative Cost-Effective Hemodynamic Assessment Tool with Real-Time Situational

Nama Penyelidik: Prof. Madya Dr. Yufridin Wahab  
Nama Produk: Wireless System Implementation For Piezoelectric Shoe In-Sole Pressure Sensor

Nama Penyelidik: Dr. Mohd Firdaus Omar  
Nama Produk: Eco-Drain: Eco-Friendly Lightweight Honeycomb Drainage Structures

Nama Penyelidik: Prof. Uda Hashim  
Nama Produk: DNA Chips for Early Detection of Cervical Cancer

Nama Penyelidik: Dr. Ragunathan all Santiago  
Nama Produk: Super-UHLM: Ultimate-Herbal Larvicide Membrane For Dengue Fever Prevention

Nama Penyelidik: Dr. Mohamad Kahar Ab Wahab  
Nama Produk: Eco-Pack: Biodegradable Film For Dry Food Packaging

Nama Penyelidik: Prof. Madya Dr. Supri A. Ghani  
Nama Produk: 2 In 1 Adhesives Based On Chicken Feather

Nama Penyelidik: Dr. Zol Bahri Razali  
Nama Produk: Automatic Efficient Ablution and Hygienic Hand Wash System

Nama Penyelidik: Muhammad Mahyiddin Ramli  
Nama Produk: Graphene Based Sensor

Nama Penyelidik: Mohamad Hatta Musa  
Nama Produk: Agro Chili Harvester (ACHa)

Nama Penyelidik: Azmi Harun  
Nama Produk: Coconut De-Husking And De-Shelling Machine

Nama Penyelidik: Dr. Lim Bee Ying  
Nama Produk: Ecoplast Palm Kernel Shell

Nama Penyelidik: Dr. Afizah Ayob  
Nama Produk: Polymer For Fly Ash Mix

Nama Penyelidik: Prof. Madya Dr. Zainab Hamzah  
Nama Produk: Rice Waste Biochar As Rice Growth Enhancer

Nama Penyelidik: Dr. Zarina Zakaria  
Nama Produk: High Growth Recovery Freeze-Dried Oyster Mushroom (*Pleurotus Sajor - Caju*) Spawn

Nama Penyelidik: Dr. Midhat Nabil Ahmad Salimi  
Nama Produk: Enviro-Fuel : An Alternative Fuel For The Future (Waste To Wealth)

Nama Penyelidik: Prof. Che Mohd Ruzaidi Ghazali  
Nama Produk: The Novel Usage Of Phoenix Dactylifera (Palm Date) Seeds

Nama Penyelidik: Prof. Dr. Ryspek Usabamatov  
 Dynamically Active Washing Process And A Washing Machine

Nama Penyelidik: Prof. Dr. Ryspek Usabamatov  
Nama Produk: Vane Type Wind Turbine Of High Drug Factor

Nama Penyelidik: Dr. Muzammil Jusoh  
Nama Produk: RF-Pin Embedded Parasitic Arrays (RF-PEPA)

Nama Penyelidik: Dr. Muzammil Jusoh  
Nama Produk: Reconfigurable Multi Directional Beam On Microstrip Patch Antenna Using PIN Diode Switch For WiMAX Application

Nama Penyelidik: Prof. Dr. Uda Hashim  
Nama Produk: Design And Specifications Of Single Array And Multiple Array Gap Electrode Lab-On-Chip Sensor

Nama Penyelidik: Abu Hassan Abdullah  
Nama Produk: Instrument And Method Of Maladour Monitoring For Chicken Disease Detection

Nama Penyelidik: Dr. Mohd Nazrin Md Isa  
Nama Produk: High Performance DNA Sequencer For Early Stage HIV Detection

Nama Penyelidik: Aimi Noorliyana Hashim  
Nama Produk: Silica Powder

Nama Penyelidik: Lee Boon Beng  
Nama Produk: Formation of Latex Film Embedded with Capsules Containing Bio-Active Compounds

Nama Penyelidik: Nor Azura Malini Ahmad Hambali  
Nama Produk: Dye-Sensitized Solar Cells Using Natural Dyes as Sensitizers from Malaysia Local Fruit 'Buah Mertajam'

Nama Penyelidik: Dr. Noorhafiza Muhammad  
Nama Produk: Underwater Femtosecond Laser Micromachining For Medical Stent Manufacture

Nama Penyelidik: Nor Hanisah Baharudin  
Nama Produk: Wind Turbine Generator Test Bench

Nama Penyelidik: Nor Hanisah Baharudin  
Nama Produk: Magnetic Levitated Vertical Axis Wind Turbine



# Perkara V PENYELIDIKAN DAN PEMBANGUNAN

## C) PRODUK YANG TELAH DIFAIKLAKAN PATEN 2014

Statistik Pencapaian Produk Yang Telah Difailkan Paten (Nasional) 2009-2014

Perkara	Pencapaian 2009	Pencapaian 2010	Pencapaian 2011	Pencapaian 2012	Pencapaian 2013	Pencapaian 2014
Bilangan Produk Yang Telah Difailkan Paten (Nasional)	7	4	12	23	16	37

### Senarai Produk Yang Telah Difailkan Paten (Nasional) 2014

No. Pemfailan: PI 201470013

Tarikh Difailkan: 3 Januari 2014

Nama Produk: Improvement In LTE-A-Cellular Network

Nama Penyelidik: Prof. Dr. R. Badlishah

No. Pemfailan: PI 2014700220

Tarikh Difailkan: 30 Januari 2014

Nama Produk: An Intelligent Natural Indoor Air Purifier And A Monitoring System Thereof

Nama Penyelidik: Prof. Madya Dr. Abu Hassan Abdullah

No. Pemfailan: PI 2014700124

Tarikh Difailkan: 20 Januari 2014

Nama Produk: A Reinforced Sandwich Panel Made From Waste Palm Shells And Empty Fruits Brunches

Nama Penyelidik: Dr. Du Ngoc Uy Lan

No. Pemfailan: PI 2014700178

Tarikh Difailkan: 24 Januari 2014

Nama Produk: Electrochemical Fabrication Of Nanoporous Alumina

Nama Penyelidik: Dr. Nazree Deraman

No. Pemfailan: PI 2014700315

Tarikh Difailkan: 12 Februari 2014

Nama Produk: A Photoelectrochemical Cell

Nama Penyelidik: Dr. Dewi Suryani Che Halin

No. Pemfailan: PI 2014700486

Tarikh Difailkan: 28 Februari 2014

Nama Produk: A System And Method For Fabricating Nano Channel Solution Gare Field Effect Transistor (SGFET) Type Biosensor That Operates In Electrolyte Solution

Nama Penyelidik: Dr. Ruslinda A. Rahim

No. Pemfailan: PI 201400312

Tarikh Difailkan: 14 Februari 2014

Nama Produk: Bioplastic Fil From Chitosan And Corn Cobs

Nama Penyelidik: Prof. Madya Ir Dr. Salmah Husseinsyah

No. Pemfailan: PI 2014700946

Tarikh Difailkan: 17 April 2014

Nama Produk: Watercraft

Nama Penyelidik: Prof. Madya Dr. Hazry Desa

No. Pemfailan: PI 201401034

Tarikh Difailkan: 25 April 2014

A Glass Fiber Reinforced Composite Pipe

Nama Penyelidik: Prof. Madya Dr. Mohd Mustafa Al Bakri Abdullah

No. Pemfailan: PI 2014702500

5 September 2014

Nama Produk: An Automatic Visual Printed Circuit Board (PCB) System

Nama Penyelidik: Dr. Wan Khairunizam Wan Ahmad

No. Pemfailan: PI 2014702505

Tarikh Difailkan: 5 September 2014

Nama Produk: Edible Bird Nest Shape Quality Assessment Using Machine Vision System

Nama Penyelidik: Fathinul Syahir Ahmad Saad

No. Pemfailan: PI 2014702512

Tarikh Difailkan: 5 September 2014

Nama Produk: Design And Fabrication Of Nanogap Electrodes Using Size Reduction Technique For DNA Detection

Nama Penyelidik: Prof. Dr. Uda Hashim

No. Pemfailan: PI 2014702579

Tarikh Difailkan: 11 September 2014

Nama Produk: A Method For Producing Hydroxyapatite Nanoparticles

Nama Penyelidik: Dr. Midhat Nabil Ahmad Salimi

No. Pemfailan: PI 2014702678

Tarikh Difailkan: 19 September 2014

Nama Produk: An Aerated Up-Flow Constructed Wetland

Nama Penyelidik: Dr. Ong Soon An

No. Pemfailan: PI 2014702743

Tarikh Difailkan: 24 September 2014

Cellulose Methacrylate As New Binder For Water Hyacinth Paper

Nama Penyelidik: Prof. Madya Dr. Supri A. Ghani

No. Pemfailan: PI 2014702066

Tarikh Difailkan: 25 Julai 2014

Nama Produk: Nanocomposites With Thermoplastic Material And Fillers And Method Of Preparation Thereof

Nama Penyelidik: Azlin Fazlina Osman

No. Pemfailan: PI 2014702062

Tarikh Difailkan: 25 Julai 2014

Nama Produk: Fiber-Reinforced Polymer Nanocomposites And Method Of Preparation Thereof

Nama Penyelidik: Azlin Fazlina Osman

No. Pemfailan: PI 2014702295

Tarikh Difailkan: 18 Ogos 2014

Nama Produk: A Geopolymer Composition For Coating Application

Nama Penyelidik: Prof. Madya Dr. Mohd Mustafa Al Bakri Abdullah

No. Pemfailan: PI 2014701894

Tarikh Difailkan: 10 Julai 2014

Nama Produk: A Cathodic Protection System Comprising An Electrochemical Cell Connected To An Anode Buried In The Ground And A Metal Structure To Be Protected

Nama Penyelidik: Shaiful Rizam B. Shamsudin

No. Pemfailan: PI 2014701121

Tarikh Difailkan: 2 Mei 2014

Nama Produk: Design and Specifications Of Single Array And Multiple Array Gap Electrode Lab-On-Chip Sensor

Nama Penyelidik: Prof. Dr. Uda Hashim

No. Pemfailan: PI 2014701132

Tarikh Difailkan: 5 Mei 2014

Nama Produk: A Lab-On-Chip System and Method For Detection Of Biomolecules

Nama Penyelidik: Prof. Dr. Uda Hashim

PI 2014701142

Tarikh Difailkan: 6 Mei 2014

Nama Produk: Eco-Activated Carbon Fiber Sheet For Purification

Nama Penyelidik: Aimi Noorliyana

No. Pemfailan: PI 2014701140

Tarikh Difailkan: 5 Mei 2014

Nama Produk: Fertigation Plantation Micro-Climate Monitoring System

Nama Penyelidik: Jeffy Affendi

## HARTA INTELEK

No. Pemfailan: PI 2014701162

Tarikh Difailkan: 6 Mei 2014

Nama Produk: Eco-Cement Composition And Method And Material For Making Same

Nama Penyelidik: Aimi Noorliyana

No. Pemfailan: PI 2014701193

Tarikh Difailkan: 8 Mei 2014

Nama Produk: Wireless Automated Fertigation Control And Remote Monitoring System

Nama Penyelidik: Jeffry Affendi

No. Pemfailan: PI 2014701328

Tarikh Difailkan: 22 Mei 2014

Nama Produk: Intelligent Channel Selection In INEE 802.15.4 WSN 2.4Ghz ISM Spectrum

For Coexistence Mitigation

Nama Penyelidik: Dr. Latifah Munirah Kamarudin

No. Pemfailan: PI 2014701982

Tarikh Difailkan: 21 Julai 2014

Nama Produk: An Optical Flow Based Emotion Revealing For Real Time Home Applications

Nama Penyelidik: Dr. M. Murugappan

No. Pemfailan: PI 2014702294

Tarikh Difailkan: 18 Ogos 2014

Nama Produk: System And Method For Malodour

Detection To Diagnose Disease In Farm Birds

Nama Penyelidik: Prof. Madya. Dr. Abu Hassan

Abdullah

No. Pemfailan: PI 2014702338

Tarikh Difailkan: 21 Ogos 2014

Nama Produk: A Polystyrene Adhesive

Nama Penyelidik: Dr. Mohd Afendi Rojan

No. Pemfailan: PI 2014702437

Tarikh Difailkan: 28 Ogos 2014

Nama Produk: Systems And Methods For Pairwise Biological Sequence Alignment

Nama Penyelidik: Dr. Nazrin Md Isa

No. Pemfailan: PI 20144702577

Tarikh Difailkan: 11 September 2014

Nama Produk: Fabrication Of Dye Sensitized Solar Cell With An Organic Dye From "Keriang Dot"

Nama Penyelidik: Gomesh Nair a/l Shashidaran

No. Pemfailan: PI 2014702842

Tarikh Difailkan: 29 September 2014

Nama Produk: A Natural Dye Sensitized Solar Cell Using Erioglossum Rubiginosum Fruit As Source For Dye-Sensitizer

Nama Penyelidik: Dr. Nor Azura Malini Ahmad Hambali

No. Pemfailan: PI 2014702865

Tarikh Difailkan: 29 September 2014

Nama Produk: Nano-Sensors And Methods For Manufacturing Thereof

Nama Penyelidik: Muhammad Mahyiddin Ramli

No. Pemfailan: PI 2014703429

Tarikh Difailkan: 17 November 2014

Nama Produk: Three-Phase Multilevel Inverter With Variable Frequency

Nama Penyelidik: Baharudin Ismail

No. Pemfailan: PI 2014702458

Tarikh Difailkan: 27 Ogos 2014

Nama Produk: Smart Surveillance System

Nama Penyelidik: Prof. Madya Dr. Mohd Fareq Abd. Malek

No. Pemfailan: PI 2014703170

Tarikh Difailkan: 27 Oktober 2014

Nama Produk: A Detachable Power Driven Unit For Instantly Transforming Manual Wheel Chair Into Motorized Unit

Nama Penyelidik: Dr. Shahriman Abu Bakar

No. Pemfailan: PI 2014703284

Tarikh Difailkan: 5 November 2014

Nama Produk: A Method Of Producing A Silicon Nanowires

Nama Penyelidik: Prof. Dr. Uda Hashim

