

# Innovation toward to Commercialization in Universiti Putra Malaysia



**B**ERILMU BERBAKTI **I**  
WITH KNOWLEDGE WE SERVE

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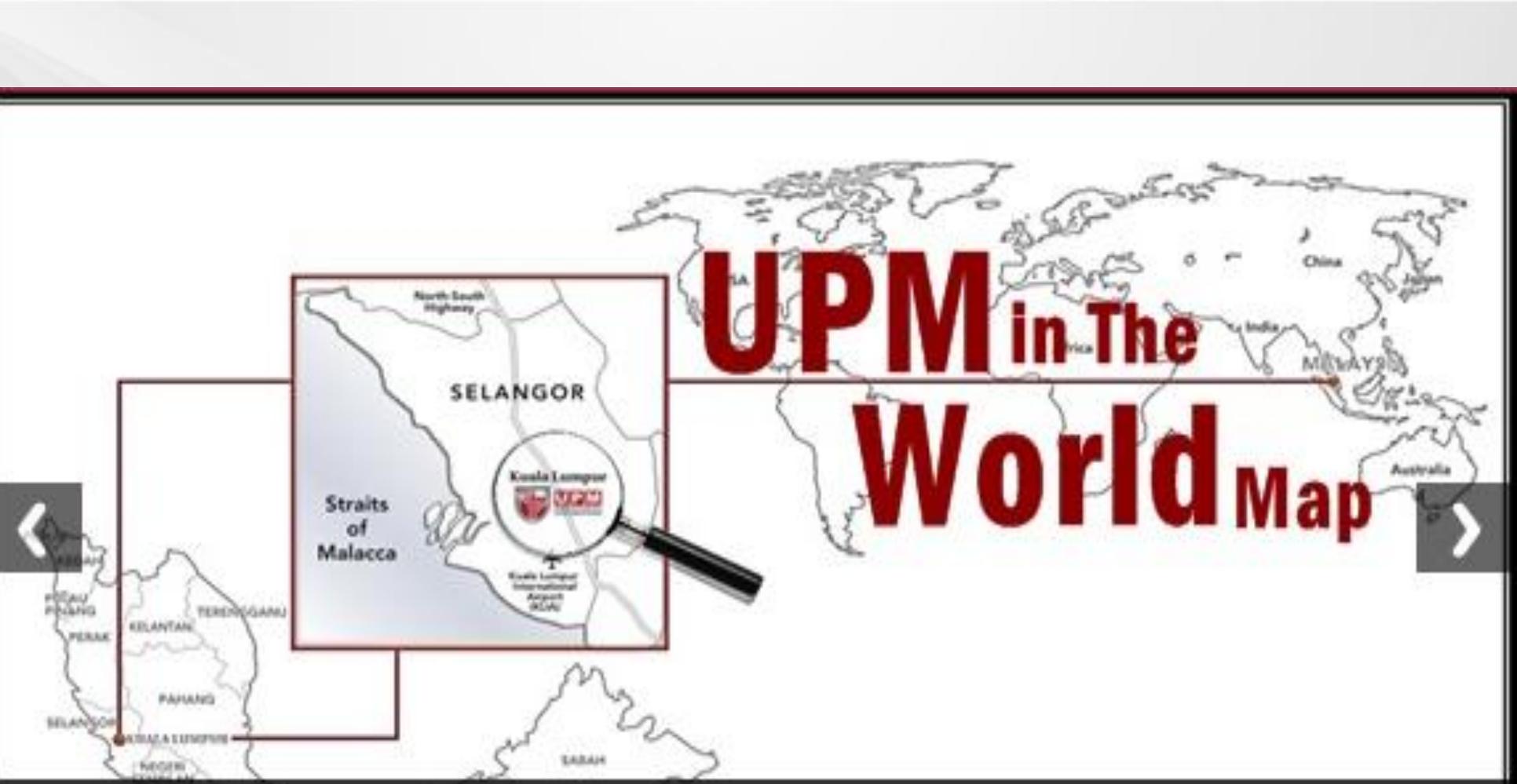
## UNIVERSITI PUTRA MALAYSIA (UPM)

**Universiti Putra Malaysia (UPM)** is one of Malaysia's **premier public** Universities with an array of disciplines

Located strategically within the Multimedia Super Corridor, only 10 minutes drive to Putrajaya and 30 minutes drive to the Kuala Lumpur City Centre.

Accorded the status of '**Research University**' by the Ministry of Higher Education, Malaysia in 2006

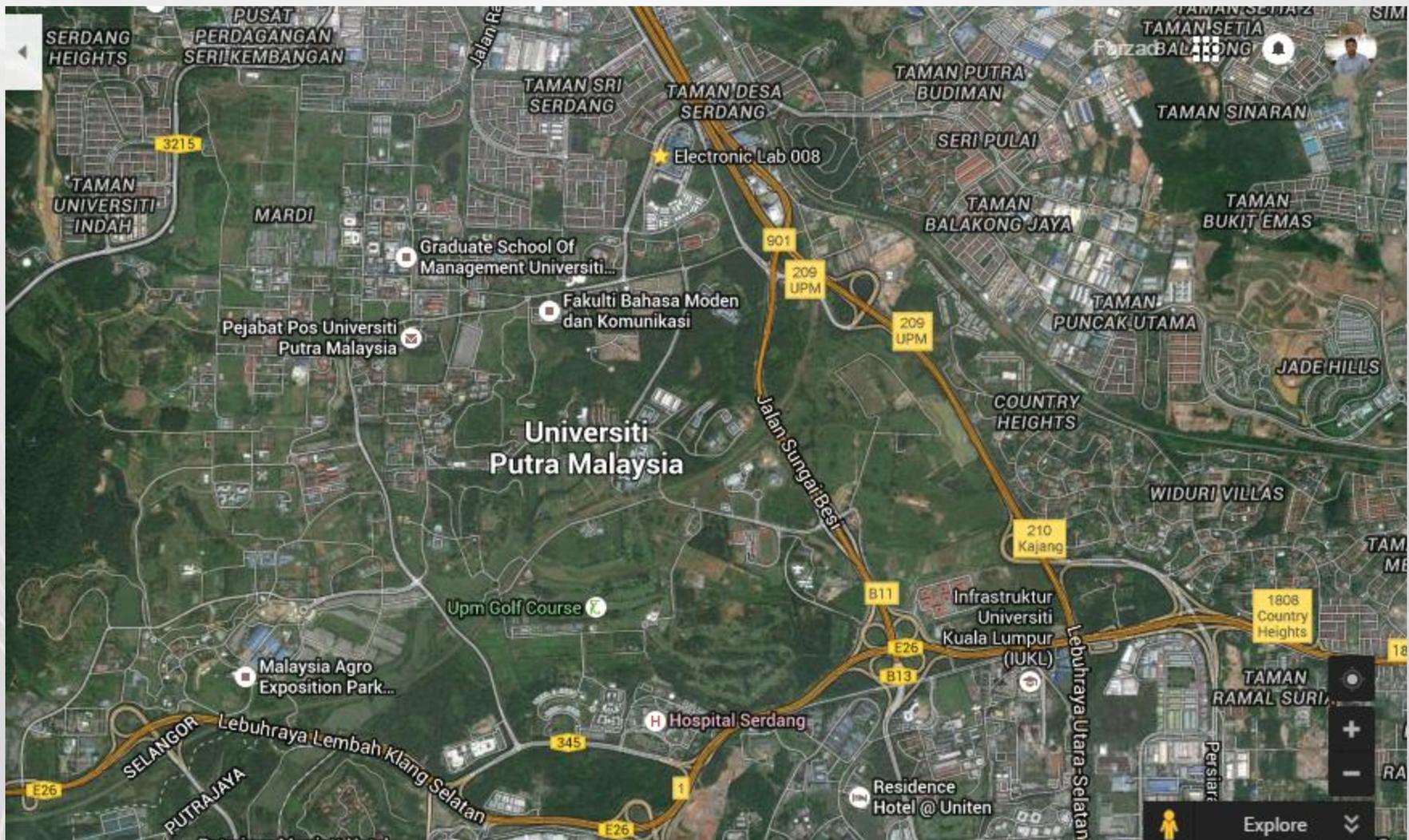




# UPM in The World Map

## PUTRA GLOBAL 200

Kami membuat sasaran penting untuk mencapai kedudukan 200 universiti terbaik dunia berdasarkan penilaian QS World University Ranking pada tahun 2020. Putra Global 200 bukan suatu angan-angan biasa, tetapi ia adalah impian yang berdasarkan usaha strategik, semangat daya saing yang tinggi dan kerjasama yang kolektif.



**Total Campus Size → 1822 Hectares**

**Main Campus Size – Serdang → 1108.103 hectares**

**Branch Campus Size – Bintulu → 714.717 hectares**





## **VISION**

**To become a university of international repute.**

## **MISSION**

**To contribute towards wealth creation, nation building and universal advancement through discovery and dissemination of knowledge.**





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BERSILU BERSAKTI

Universiti  
Putra  
Malaysia

# UNIVERSITY RANKING

**QS TOP UNIVERSITIES**

Rankings > Discover > Events > Prepare > Apply > Careers > Community



OVERVIEW  
Ranking & stats

UNDERGRADUATE

POSTGRADUATE



## Universiti Putra Malaysia (UPM) ★★★★★

S M **L** XL

SIZE < 30,000



AGE < 50 years



STATUS  
Public



RESEARCH  
Very High



FOCUS  
Comprehensive+

Universiti Putra Malaysia (UPM) formerly known as Universiti Pertanian Malaysia was founded in 1971 through the merger of Faculty of Agriculture, University Malaya and Agriculture College in Serdang. The first three founder faculties were Faculty of Agriculture, Faculty of Forestry and Faculty of Veterinary Medicine and Animal Science. UPM maintains its traditional role of education in focussing its tertiary level research on agriculture and its relevant areas. In early 80's, UPM has expanded its scope by including science and technology into its areas of studies. In 1994, UPM aspired to be the University of the Next Millennium and in line with

▼ [READ MORE](#)





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# UNIVERSITY RANKING

**QS TOP UNIVERSITIES**

Rankings > Discover > Events > Prepare > Apply > Careers > Community



University search: Study Level Subject of interest Study destination GO

OR Site Search GO



OVERVIEW  
Ranking & stats

UNDERGRADUATE

POSTGRADUATE



## Universiti Putra Malaysia (UPM) ★★★★★

POSTGRADUATE



POSTGRADUATE INTERNATIONAL FEES  
< 8,000 USD



Universiti Putra Malaysia (UPM) formerly known as Universiti Pertanian Malaysia was founded in 1971 through the merger of Faculty of Agriculture, University Malaya and Agriculture College in Serdang. The first three founder faculties were Faculty of Agriculture, Faculty of Forestry and Faculty of Veterinary Medicine and Animal Science. UPM maintains its traditional role of education in focussing its tertiary level research on agriculture and its relevant areas. In early 80's, UPM has expanded its scope by including science and technology into its areas of studies. In 1994, UPM aspired to be the University of the Next Millennium and in line with

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BERILMU BERAKTI

Universiti  
Putra  
Malaysia

# FACTS & FIGURES



## Academic Entities

- ✓ **16 Faculties**
- ✓ **10 Institutes**
- ✓ **2 Schools**
- ✓ **1 Academy**

## No. of Academic Programmes

- ✓ **Postgraduate- 57**  
*(with more than 250 fields of studies)*
- ✓ **Undergraduate- 78**  
*(7 Diploma & 71 Bachelor Programs)*
- ✓ **Agricultural Science Foundation Program**



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# Faculties in UPM

The following is a list of **16** faculties in UPM:

- »Faculty of Agriculture
- »Faculty of Forestry
- »Faculty of Veterinary Medicine
- »Faculty of Economics and Management
- »Faculty of Engineering
- »Faculty of Educational Studies
- »Faculty of Science
- »Faculty of Food Science and Technology
- »Faculty of Human Ecology
- »Faculty of Modern Language and Communication
- »Faculty of Design and Architecture
- »Faculty of Medicine and Health Science
- »Faculty of Computer Science and Information Technology
- »Faculty of Biotechnology and Biomolecular Sciences
- »Faculty of Environmental Studies
- »Faculty of Agriculture and Food Sciences



# Where we are ...

# 2017



For improving an **impressive 61 places** in the



# #229

(Top 1% in the World)

Out of 30,000 Universities

#270  
(Top 1% in the world\*)  
\*Out of approximately 30,000 universities worldwide

QS UNIVERSITY RANKINGS ASIA 49<sup>TH</sup> IN ASIA 2016 FROM 66<sup>TH</sup> (2015)

KEEP INSPIRING  
KEEP SOARING UPWARDS  
MALAYSIAN HIGHER EDUCATION



UPM IS RANKED **229<sup>th</sup>**

Among top 1% universities



**WORLD UNIVERSITY RANKINGS**®

**2017/2018**



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# CONGRATULATIONS!

## UPM RANKED

**1<sup>st</sup>**  
in  
Malaysia

**15<sup>th</sup>**  
in the  
World

**QS** WORLD UNIVERSITY RANKINGS  
TOP 50 UNDER 50  
2017/2018



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 [youtube.com/user/bppupm](https://youtube.com/user/bppupm)

PERTANIAN • INOVASI • KEHIDUPAN

BERILMU BERBAKTI

[www.upm.edu.my](http://www.upm.edu.my)



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SOARING  
UPWARDS

WE'RE IN THE **TOP 1%** OF  
UNIVERSITIES WORLDWIDE  
AND WE'RE AIMING HIGHER EVERYDAY...

**229<sup>th</sup>** **QS** WORLD  
UNIVERSITY  
RANKINGS  
2018

**49<sup>th</sup>** **QS** ASIAN  
UNIVERSITY  
RANKINGS  
2016

**17<sup>th</sup>** **QS** WORLD  
UNIVERSITY  
RANKINGS  
TOP 50 UNDER 50

**15 SUBJECTS  
TOP 200** **QS** WORLD  
UNIVERSITY  
RANKINGS  
*by subject*

**42<sup>nd</sup>** **BEST**  
Best Global Universities  
for Agricultural Sciences  
- U.S. News & World Report  
**USNEWS**

**34<sup>th</sup>** **Green**  
In the World  
and 4<sup>th</sup> in Asia  
**Metric**  
World University Ranking

**89<sup>th</sup>** **THE** BRICS & EMERGING  
ECONOMIES  
RANKINGS

**121<sup>th</sup>-130<sup>th</sup>** **THE** BRICS & EMERGING  
ECONOMIES  
RANKINGS  
ASIA

**TOP 75** **REUTERS**  
ASIA'S MOST INNOVATIVE  
UNIVERSITIES  
#1 MALAYSIA | #3 SOUTHEAST ASIA | #73 ASIA

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AGRICULTURE • INNOVATION • LIFE

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www.upm.edu.my



# UPM ranks in the **Top 1.0%** of universities worldwide

**270<sup>th</sup>**

QS World University Rankings

**17<sup>th</sup>**

QS Top 50 Under 50

REUTERS

**Top 75**

Asia's Most Innovative Universities

**49<sup>th</sup>**

QS Asia University Rankings



**34<sup>th</sup>**

UI GreenMetric University Rankings

**5 Star**



QS Star Universities Ratings

**89<sup>th</sup>**

THE BRICS & Emerging Economics World Rankings

**Agriculture Science program rankings**

**Top 100**

QS World University Ranking by Subjects

**42<sup>nd</sup>**

US News & World Report

**67<sup>th</sup>**

National Taiwan University Ranking

# RECOGNITIONS

## INTERNATIONAL AWARDS AND RANKINGS

### UPM universiti inovatif terbaik negara

MUHAMMAD AZIM ZAID | 02 September 2016 12:12 AM

Like Share Tweet Google+

KUALA LUMPUR 1 Sept. - Universiti Putra Malaysia (UPM) tersenarai sebagai universiti inovatif terbaik dalam negara oleh ranking Reuters Top 75: Asia's Most Innovative Universities berikutan kecemerlangan institusi pendidikan itu di dalam bidang sains, penciptaan teknologi baharu dan membantu memacu ekonomi global.



Senarai yang dikeluarkan oleh agensi berita antarabangsa, Reuters turut meletakkan UPM ketiga terbaik Asia Tenggara dan 73 terbaik Asia diikuti Universiti Malaya pada kedudukan ke-75.

Naib Canselor UPM, Prof. Datin Paduka Dr. Aini Ideris berkata, pemilihan oleh agensi itu secara umumnya berdasarkan metodologi yang memberi tumpuan kepada artikel ilmiah penyelidikan asas yang dilakukan di universiti itu selain pemfalan paten bagi perlindungan harta intelek.

"Dengan kedudukan UPM sebagai universiti inovatif terbaik dalam negara mengikut pemilihan Reuters, inisiatif Putra Global untuk UPM mencapai kedudukan 200 universiti terbaik dunia menjelang 2020 akan terus dipergiatkan.

"Selari dengan visi UPM iaitu ke arah universiti bereputasi antarabangsa, kualiti penyelidikan dan inovasi UPM bukan sahaja boleh melonjakkan tahap kecemerlangan UPM tetapi memberi sumbangan bermakna kepada kesejahteraan masyarakat dan kemajuan negara," katanya dalam satu kenyataan hari ini.



#45



#17



#229



#103



#73

REUTERS Most Innovative University in Malaysia

#17



*by subject*

Agriculture & Forestry	51-100
Engineering – Chemical	51-100
Engineering – Mechanical , Aeronautical & Manufacturing	51-100
Architecture/ Built Environment	101-150
Pharmacy & Pharmacology	101-150
Environmental Sciences	101-150
English Language & Literature	101-150
Engineering – Civil & Structural	101-150
Engineering – Electrical	101-150
Education	101-150
Computer Sciences & Information Systems	101-150
Modern Languages	151-200
Accounting & Finance	151-200
Material Sciences	151-200
Business & Management Studies	151-200

**Top 100**  
3 subjects

**UPM ranked in the  
top 200 in the world  
in 16 different  
subject areas**

**Top 150**  
8 subjects

**Top 200**  
5 subjects



# GRADUATE EMPLOYABILITY

**2016 : 83.5%**

**2015**

**83.1%**

**2013**

**86.1%**

**82.2%**

**2014**

**2011**

**83.3%**

**85.9%**

**2012**



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# Innovative University First in Malaysia and Third in ASEAN



# INNOVATION AND COMMERCIALISATION IN VARIOUS FIELD



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new innovation  
for your business?

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of exciting new  
technologies

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**them!**  
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Come and see UPM's new R&D products from various fields of innovations. We have new solutions for various industries such as consumer products, health and beauty, medical, engineering, agriculture, design, manufacturing, ICT and many more. One of these would surely help propel your business to new heights with exciting new products and processes.

Our innovation team will be your guide to choose from a vast array of technological solutions. You will also be able to meet the researchers behind each new technology. Come and meet them at our series of Innovation Open Day. See you there.





# TECHNOPRENEURS: BUILDING BUSINESSES FROM TECHNOLOGIES OF TOMORROW







# COMMERCIALISED PRODUCTS





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# Agricultural Products

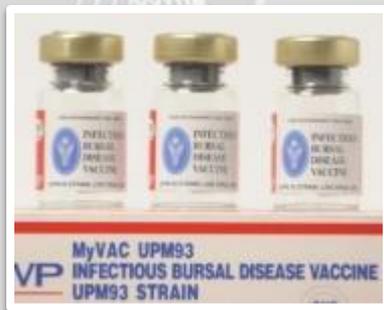
Berilmu Berbakti With Knowledge We Serve



**Fowl Pox Vaccine**  
**RM 2.86 million**



**Newcastle Disease Vaccine**  
**RM 1.33 million**



**Infections Bursal Disease Vaccine**  
**UPM93 Strain**  
**RM 1.07 million**



Vaccines in the  
poultry industry



**MVP**  
MALAYSIAN  
VACCINES AND  
PHARMACEUTICALS  
(CO NO: 82381-X)

*Dilesenkan kepada :*  
**Malaysia Vaccines & Pharmaceuticals (MVP)**



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# Agricultural Products

Berilmu Berbakti With Knowledge We Serve

**RM 26.5 million**



**ZAPPA®** -The rice seeds germination enhancer

*Patent -MY133162A*

**Vita-Grow®** - The growth and yield enhancer

*Trade Secret*



*Licensed to:*

**Diversatech (M) Sdn. Bhd.**



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# Agricultural Products

Berilmu Berbakti With Knowledge We Serve



**Trichogreen™** - a biocontrol agent and growth enhancer for oil palm industry

*Trade Secret*

**RM67,000.00**

**Unique Nutrients Sdn. Bhd.**



**UPM Bacto-10 - Biofertilizer**

*Trade Secret*

**\*RM 100,000**

**PhytoGold Sdn. Bhd.**



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# Agricultural Products

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**Pneumonic Mannheimia Vaccine** - vaccine for goats and sheep against mannheimia haemolutica infection

*Patent - PI20070305*

**\*RM 4 million**

**ST Biolife Sdn. Bhd.**



## **KUSTEMVax**

Mannheimiosis vaccine - an intranasal spray vaccine for sheep and goats

*Patent - PI20060550*

**RM100,000**

**Joint owner with UMT  
Profound Vaccine Sdn. Bhd.**



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# Agricultural Products

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**Monogastric Animal Feed** – a feed additive or food supplement formulation

*Patent - PI201005787*

**\*RM 1 million**

**Nu-Trino Synbio (M)  
Sdn Bhd**



**StellarLac** -  
Probiotic for chicken

*Trade Secret*

**RM 200,000**

**Janaf Sdn. Bhd.**



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# Agricultural Products

Berilmu Berbakti *With Knowledge We Serve*

## Machines for Small and Medium Entreprises (SMEs)



Rolled  
Tart  
Machine



Multi - Ezy  
Cutter



Coconut Auto  
Squeezer  
Machine

Tuberous  
Fruits &  
Vegetables  
Shredding  
& Slicing  
Machine



Pineapple  
Multi-  
Peeler  
Plus



Ezy  
Cooker

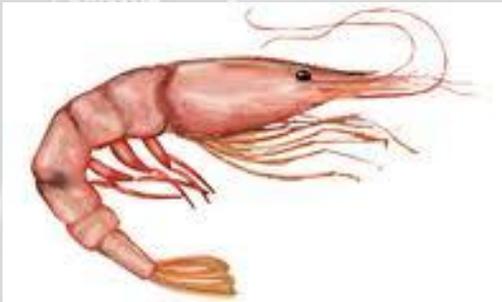




**Soil Prop** – Soil Property Calculator - machine that measures soil properties

*Copyright*

**Pidmams Smartfarming  
Sdn. Bhd**



**Development and Production  
of Shrimp Feed** – probiotics for shrimps

*Know-how technology*

**Neuriech Feedmill Sdn. Bhd.**

**Mannhemia haemolytica bacterial polypeptide and sequences, gene sequences and uses thereof**

**RM 300,000**

**KIAI 300,000**



**RM 100,000**

**KIAI 100,000**

**An improve sterilization process to increase palm oil extraction rate**

**Stone Mastic Asphalt (SMA) : safer road surfaces**

**RM 50,000**

**KIAI 50,000**



**RM 50,000**

**KIAI 50,000**

**Real Time Oil Palm Fruit Grading System : Fresh Fruit Bunch (FFB) Hyperspectral Scanner - fruit maturity detection and classification**

**TQRF (THYMOQUINONE Rich Fraction) as  
Cardioprotective and Neuroprotective Agents**

**RM 50,000**



**AFLOK : A Method For Producing A Biopolymer**

**RM 10,000**

**Perisian Fonik, Tutor untuk Murid-murid Disleksia Visual  
: diagnostic tool and software  
as language therapy in Bahasa Melayu**



**RM 50,000**



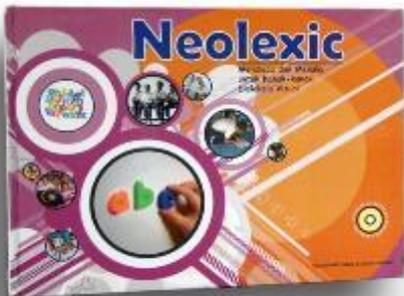
**RM 10,000**

**Integrated Production of High  
Performance Biolubricant From  
Renewable Resources**

**PROMOLAKTIN: Composition for promoting lactation with tumour suppressive properties and preparation method thereof**



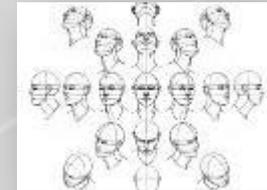
**RM 2,000**



**NEOLEXIC: Membaca Dan Menulis Untuk Kanak-Kanak Disleksia Visual**

**RM 1,250**

**3D Facial Expression Database**



**RM 500**

**Development and Production of Shrimp Feed**



**Polytop**



**Bioencapsule and Method Thereof**



**Porous Bioceramic Composition for Bone Repair**





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# List of Products



List of Products

**Department of  
Civil Engineering**



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# List of Products

**Title of Product:**

Method and System for determining The Number and Position of Damping Elements for Building Structures.

**Title of Project:**

Analysis, design, detailing of residential building for moderate earthquake excitation.

**IP:** PI2010001771

**Description:**

The invention is about development of Nonlinear Viscous Damper Applicable in Structures subjected to any type of vibration and dynamic force due to earthquake, tsunami, vehicle, train, machine and etc. Also a method of determining the optimum number and position of damping elements for building structures is proposed.



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Name Inventor: Dr. Farzad Hajati  
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**Title of Product:**

A Variable Stiffness Bracing Device

**Title of Project:**

Formulation and Validation of Effective Variable Stiffness Bracing System for Structures Under Dynamic Load

**IP:** PI 2014701608

**Description:**

The present invention relates to a variable stiffness. Bracing device deployed as a smart structural control mechanism of a building, to protect the building against severe vibration and ground motion. The present invention is functioned in retrofitting and rehabilitation of structures where subjected to dynamic loads and vibration due to wind, earthquake and ground movement.



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# List of Laboratory Service





# List of Laboratory Service

No	Department	Device Name	Services / Testing
1	Department of Aerospace Engineering	Material Testing System (MTS)	High Cycle Fatigue Testing (MS ISO/IEC 17025:2005)
2		Material Testing System (MTS)	Tensile Strength
3		Material Testing System (MTS)	Compression Test
4		Flight Laboratory (9M-KAA)	Flight Tests
5		Flight Laboratory Simulator (FLS)	Design Validations
6		Single Stage Gas Gun	High Velocity Testing, Ballistic Testing
7		Composite Material Tester	Low Velocity Impact Test/ Drop Test
8		Satellite Simulator Facility	Experiment and simulation of satellite control
9		Laser Doppler Anemometer	Measurement of air velocity at one point using laser light
10		Six Component Balance	Measurement of aerodynamic forces on object studied
11		Hot Wire Anemometer	Measuring air velocity at one point using temperature changes
12		Particle Image Velocimeter	Measurement of air velocity at one point using laser light
13		Infrared Camera	Measurement of an object velocity using movement recorded
14		Low Speed Wind Tunnel	Analysis on object affected by air velocity for determining aerodynamic forces
15		Digital High Speed Video Camera System	Measurement of an object velocity using movement recorded
16		Mechanical stirrer	Sample preparation
17		Homogenizer	Sample preparation Objective: Highly disperse powder in solution
18		Vacuum Oven	Sample preparation Objective: To remove/ degassed air bubble
19		Water bath	Sample test Water absorption test at different temperature (30°C to 99.99°C)
20		Vacuum Infusion	Sample preparation Objective: To remove/ degassed air bubble



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Malaysia

*Thank you...*

**FARZAD HEJAZI, PhD**

***Associate Professor, Department of Civil Engineering  
Innovation Coordinator, Faculty of Engineering  
Liaison Officer of UPM to Promote in Middle East and Turkey***

***Universiti Putra Malaysia***



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