

**UNIVERSITI PUTRA MALAYSIA**  
AGRICULTURE • INNOVATION • LIFE



# Driving Sustainability through Halal Innovation



**Prof. Ir. Dr. Yus Aniza Yusof <sup>1, 2</sup>**

<sup>1</sup> Deputy Director,  
Halal Products Research Institute  
Universiti Putra Malaysia (UPM)  
43400 Selangor, Malaysia.

<sup>2</sup> Department of Process and Food Engineering,  
Faculty of Engineering, UPM.  
Email: [yus.aniza@upm.edu.my](mailto:yus.aniza@upm.edu.my)

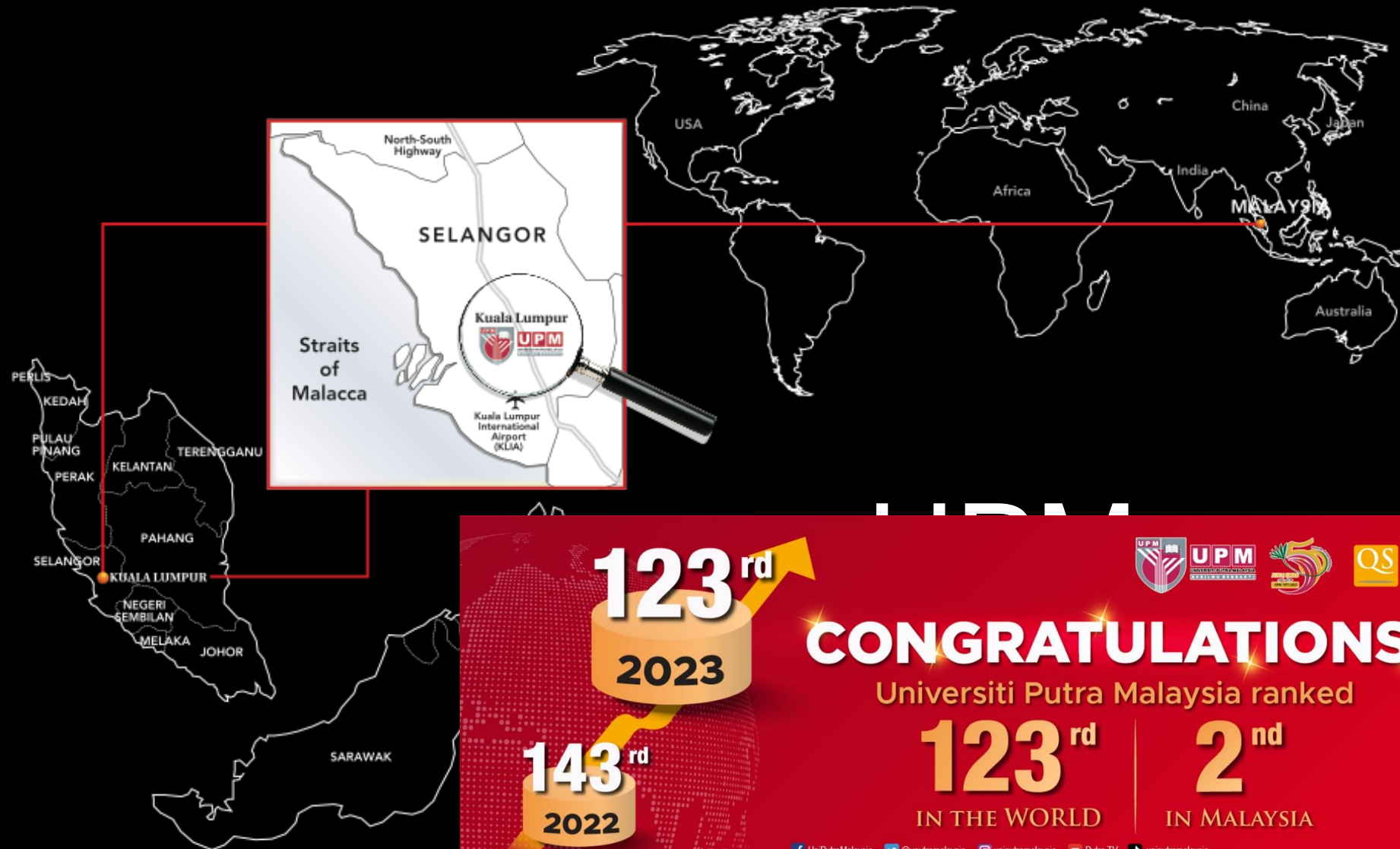
**BERILMU BERBAKTI**  
WITH KNOWLEDGE WE SERVE

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

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

AGRICULTURE • INNOVATION • LIFE

# OVERVIEW OF UPM



# Content

- Halal Products Research Institute
- Halal
- Halal Market Overview
- Halal Science and Innovation
- Authentication – DNA, Protein
- Product Development
- Way Forward and Future Trends



# Halal Products Research Institute (HPRI)- cont.

## A Brief Profile of IPPH

- Established in 2006
- 1st in Malaysia

### Vision



Upholding the sanctity of  
halal through  
research & services

### Mission



Total commitment towards  
halal globalization and  
enterprise



## Our Expertise

Proteomics

Food  
Authenticity &  
Traceability

Alternative  
Product  
Development

Food Science &  
Technology

Food  
Engineering

Sensor  
Technology

Shariah

Halal Business  
&  
Management

Halal Standard  
& Policies

Halal Tourism

Administration  
& Islamic Law

Islamic &  
Strategic  
Marketing

Halal Logistic

Halal  
Consumerism

Halal  
Slaughtering



# Halal Products Research Institute (HPRI)- cont.

## Our core business



Halal products traceability and authentication



Halal products innovation



Syariah and halal laws



Halal policy development, business and management



Halal testing, training and services



**PROFESSIONAL CERTIFICATION IN**  
**HALAL EXECUTIVE**  
**COURSE**

Organized by:  
Halal Products Research Institute (HPRI)  
Universiti Putra Malaysia

Managed by:  
UPM Education & Training Sdn. Bhd.  
UPMHOLDINGS

Venue:  
Seminar Room  
Halal Products Research Institute  
UPM, Serdang Selangor D.E

**HALAL EXECUTIVE COURSE 2018**

Professional Certification in Halal Executive Course is a training module that has been designed and developed by Halal Hub Division, JAKMA. Halal Products Research Institute (HPRI) is one of the certified trainers and training providers appointed by JAKMA. The objective of this course is to produce Halal Executive who will be equipped with theoretical knowledge and practical skills to assist an organisation to meet halal standards and compliance employing practical methods, techniques, procedures, technologies and tools.

**TARGET PARTICIPANTS**

- **Halal Industry players**  
Food Product/Beverages/Food Supplement  
Food/Petcare/Non-Food Consumer Goods  
Cosmetics and Personal Care, Single/Personal  
Pharmaceutical & Logistics
- **Students**
- **Government and private agencies**  
NGOs and public.

**MODULES**

- M1. Halal Manual and Records Administration
- M2. Internal Halal Committee (IHC) Program Administration
- M3. Halal Assurance System (HAS)
- M4. Halal Certification Process Administration
- M5. Halal Internal Audit Facilitation

**REGISTRATION FEES**

RM3,000.00 per pax  
(30% - deposit of payment)

**QUALIFICATION REQUIREMENT**

Diploma  
(Minimum Qualification)

**Package Includes:**  
Course Materials, Traveling Lunch, Tea Break and Certificate of Professional Halal Executive

**CONTACT INFORMATION:**  
JAKMA: www.jakma.gov.my  
UPM: www.upm.edu.my  
UPMHOLDINGS: www.upmhldg.com  
HRDF: www.hrdf.gov.my

**DATE:**  
Will be announced soon!

**PLEASE CALL:**  
03-8947 3830 (Mhd Hafid) / 03-8947 3833 (Farhana)  
Email: halalserviceslab@upm.edu.my  
Online Registration: <https://goo.gl/UnDrdP>



# Halal

**Halal** : Permissible based on shariah rulings  
(religious, faith and spiritual)

**Thoyyib** : Good or wholesome (quality, safety, hygiene, clean,  
nutritious, and authentic)

# Halal Market Overview

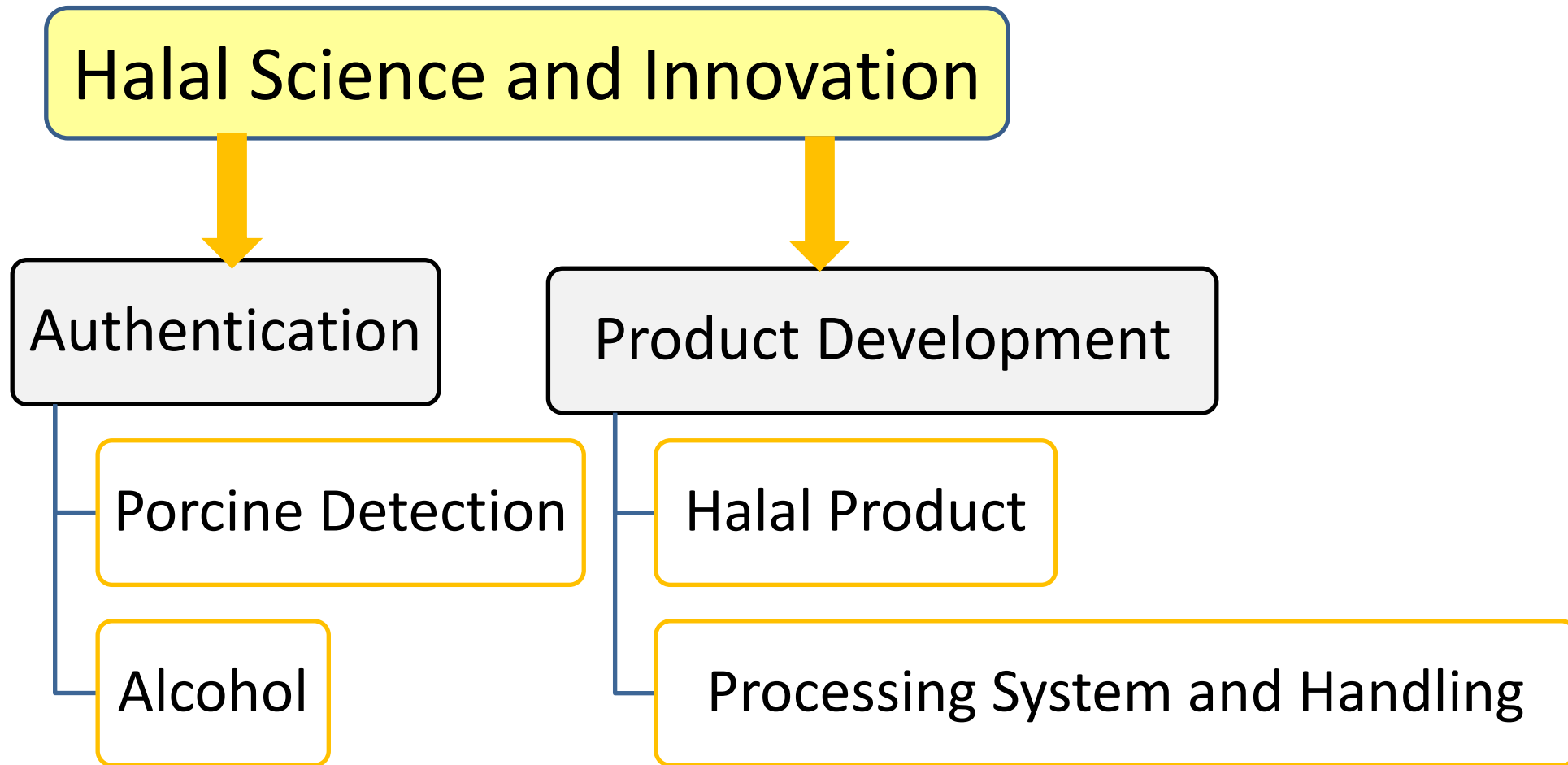
- ~ **1.9 Billion Muslim population**- world population 7.7 Billion: **25%**  
(World Population Review, 2020)
- High halal market demands- USB 1644.9 mil by 2025 (Market Study Report, 2020)

## Challenges

- **Authenticity** of food with pork substitute
- Use of **undeclared** prohibited ingredients
- Use of **cheaper filler ingredients** to add weight - higher value
- **Product handling** and processing - cross contamination



# Halal Science and Innovation





# Authentication- DNA

DNA

Sample

- Meat and meat products
- Animal feed

HaFYS™

- Meat and meat products
- Fats and oil
- Dairy products
- Pharmaceutical products

DNA  
Extraction

- Conventional method
- Commercial Kit

PCR

- Conventional PCR
- Real-time PCR



1 hour



24 hours

# Authentication- DNA (cont.)

DNA

Halal Verification System

HaFYS™



Universiti Putra Malaysia's Halal Products Research Institute deputy director **Professor Dr Shuhaimi Mustafa** with the GeneSTAT System machine in **Kuala Lumpur** yesterday. Pic by Surianie Mohd Hanif

- **Detect traces** of porcine DNA in food samples.
- **Eliminates the risk of sample** contamination during transportation
- **Shortens** the analysis time
- **easy to use**- does not require a trained person to handle.

<https://www.thestar.com.my/news/nation/2016/03/31/portable-device-can-test-for-porcine-dna-within-an-hour/>

# Product Development (cont.)

Halal Packaging - Tech +material

Halal Printing- ink, glue

Halal Cleaning –Islamic ritual cleansing

Muslim Friendly Tourism



# Way Forward and Future Trends

- **Halal science and innovation** is important for halal authentication and product development.
- **Utilisation of new technology** such as nanobiotechnology, digital PCR, and integration with smart phones.
- **Human capital development** is important too as to ensure in upholding the sanctity of halal research and services (post graduate studies, workshop, seminar and training).
- Development of halal authentication device that is **reliable, sensitive, rapid, affordable, robust and can used directly by consumers.**
- Compliance with halal attracts **Muslim consumers.**



# HPRI Supports Halal Science and Innovation Activities





# Welcome for any collaboration opportunities with HPRI!

**THANK YOU!**

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

Halal Products Research Institute  
Universiti Putra Malaysia  
43400 UPM Serdang, Selangor  
Tel. No: 03-97691955  
Email: [halal@upm.edu.my](mailto:halal@upm.edu.my)