



**UPM**  
UNIVERSITI PUTRA MALAYSIA  
BERSAMA BERSYAKTI

# Ownership of IP Rights and Revenue Sharing



**Mohamed Shariff Mohamed Din**  
**Putra Science Park**  
**Universiti Putra Malaysia**

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UNIVERSITI PUTRA MALAYSIA

## Mohamed **Shariff**



J **Universiti Putra Malaysia (since 1977)**

J **Academic qualification:**

- **Fish/shrimp doctor** Pakistan
- **MSc & PhD** Univ. Stirling, Scotland
- **Director, TMO (ICC) 2006-2010** March
- **Director, Putra Science Park** Mar 2010



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# FAST TARGET™ WHITE SPOT VIRUS DETECTION KIT

Novel Single Tube Nested DNA Amplification System



2000



Conventional



## Was sold in

- ☞ Australia
- ☞ India
- ☞ Indonesia
- ☞ Malaysia
- ☞ South America
- ☞ Sri Lanka (FAO)
- ☞ Thailand





# Contents

- Overview of a Malaysian Research University
- Setting the Innovation Culture
- Ownership of IP Rights
- Revenue Sharing

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## Malaysia – Educational Hub for the Region

2010

➤ Public Universities	21
➤ Private Universities	49
➤ Foreign student	80, 750
➤ From Countries	168

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## Malaysia – Educational Hub for the Region

➤ China	10,214	➤ Thailand	1,725
➤ Indonesia	9,889	➤ Vietnam	642
➤ Iran	4,800	➤ Philippines	401
➤ India	1,388	➤ Mongolia	245
➤ Pakistan	1,789	➤ Japan	177
➤ Sri Lanka	1,103		



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## Malaysia – 5 Research Universities

Extra \$50 million/year

- Fellowship Postgraduates  
Postdoctoral  
Foreign expert from renown labs
- Research
- Equipment
- Attachment in renown labs



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# Aggressive paradigm shift towards commercialisation began 5 years ago!



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 a world leader in **new** tropical agriculture

**Research University**

galeri **Putra**  
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# UPM Faculties

- Agriculture
- Biotechnology & Biomolecular Sciences
- Computer Science & Information Technology
- Design & Architecture
- Economics & Manage.
- Educational Studies
- Engineering
- Environmental Studies
- Food Science & Tech.
- Forestry
- Human Ecology
- Medicine & Health Sciences
- Modern Languages & Communication
- Science
- Veterinary Medicine
- Agri. & Food Science



Total :  
**16**

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# R&D Institutes

1. Bioscience (IBS)
2. Advanced Technology (ITMA)
3. Mathematical Res. (INSPEM)
4. Agri. & Food Policy Studies (IKDPM)
5. Trop. Agriculture
6. Trop. Forestry & Forest Products (INTROP)
7. Social Science Studies (IPSAS)
8. Halal Product Res. Inst. (HPRI)
9. Gerontology (IG)



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# University information


**Academic staff No. 1,492**

**Student No. 30,000**

**Land area 1,200 ha**



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**Total:**  
**US\$81.1m**

## Research Funding 2006-2010

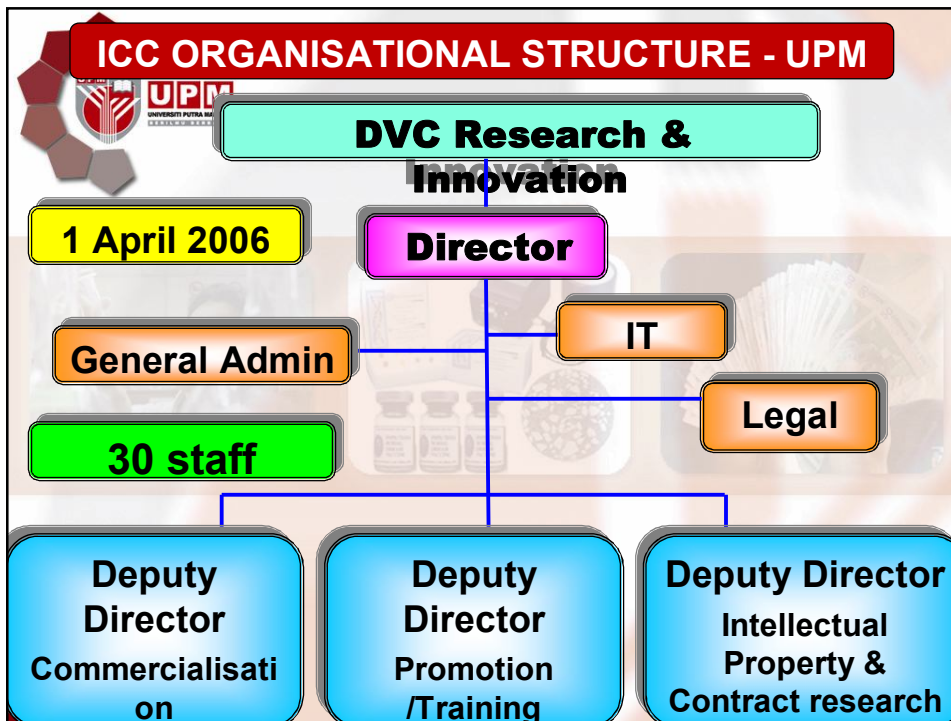
		Projects Nos.	US\$ M
<ul style="list-style-type: none"> <li>• Government funds</li> <li>• 94.3%</li> </ul>	Science and	523	27.0
	Fundamental	608	13.3
	RUGS	876	18.8
	Top Down Nat. Biotech.	25	5.1
	Technofund	11	2.7
	MTDC	10	6.5
	Others	6	0.2
<ul style="list-style-type: none"> <li>• Private Funds (4%)</li> </ul>	FELDA	28	1.5
	MPOB	17	1.0
	Others (MTSF, GABA, Etc.)	45	2.5
<ul style="list-style-type: none"> <li>• International (1.7%)</li> </ul>	International	59	2.1



## Key performance index (KPI)

Position	ISI Journal papers	PG students	Teaching credits /year	Research grants US\$
Prof	3	3	3-12	21,000
Assoc Prof	2	2	“	12,000
Lecturer	1	1	“	10,000

Patents: 1 patent = 1 publication /2 years





## TTO Divisions & functions

### Commercialisation

#### Planning

- Business planning
- Business develop
- Market research
- Garage/incubators
- Issues/Policy

#### Commercialisation

- Entrepreneurship
- Marketing
- 'Spin-off'

#### Company

- Commer grant
- Monitoring project/Co.

### Promotion/ Training

#### Promotion/ Training

- Promotion
- Roadshow
- Training
- Public retlation
- Branding
- Matchmaking

### IP/Contract Research

#### Intellectual Property

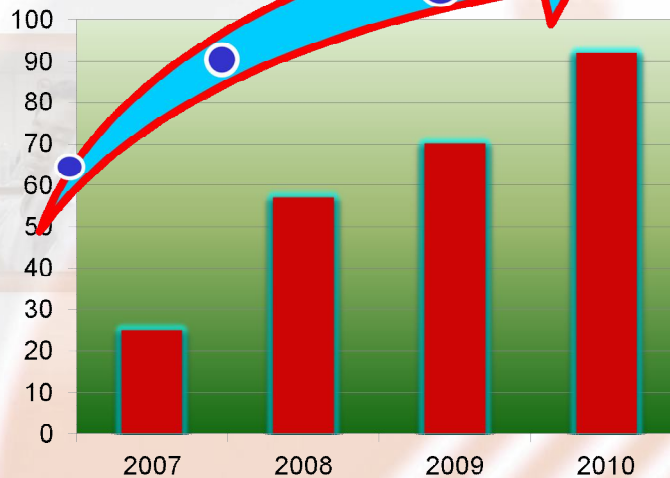
- Patent
- Trademark
- Plant variety

#### Com Dev. Research

- Contract Research
- Technology transfer

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## Patent Applications 2007-2010



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*Good  
understanding  
of our clients!*



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## Researcher's role

Supervisor

Train researchers on all aspects of commercialization including IP protection

Training   Stressed   Research

No experience in commercialisation or entrepreneurship

Commercialisation!



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# Awareness

- Still only focus on publishing papers
- Importance of commercialization?
- Contribution to nation building?
- Income they can generate for themselves & team!

**IP & TT is a new culture in Univ. or PRI**

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# Awareness campaigns

**Top management**

- Vice Chancellor
- Deputy Vice Chancellors
- Registrar
- Bursar
- Deans
- Deputy Deans

**Involve the total**

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## IP & Commercialisation Course for Univ Top Management



**2 ½ day course**

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## Awareness campaigns



**All academic staff**



**Road show to all faculties &  
Institutes**

**Get a feedback**

**Motivation!**

**Role of TTO to synergise with researchers**

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## Provide Training – Technology Transfer

- Selected academic staff
- Have a patent or potential candidates
- At Univ. & PRIs

**Building core of knowledgeable group**

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## Awareness campaign & training in IP

- Phase I - Awareness & training campaigns**
- Phase II – Introduce policy & guidelines**
- Phase III – Implementation of policy**
- Phase IV - Fine tuning & continuous improvement**

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# COMMERCIALISED

*Products & Technologies*

Vita-Grow<sup>R</sup>

ZAPPA<sup>R</sup>

Fowl Pox Vaccine

NDV : V4-UPM

MyVAC UPM93

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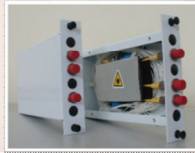
# COMMERCIALISED *Products & Technologies*



**FAST  
TARGET™**



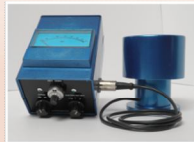
**StellarLac™**



**Fiber Duplexer  
Module**



**Stone Mastic**



**MRT Latexometer™**

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# COMMERCIALISED *Products & Technologies*



**Bacteriocin**



**KUSTEM Vax™**



**Trichogreen™**



**Palm Leaf  
Extract**



**AJIB®**

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# Commercialisation

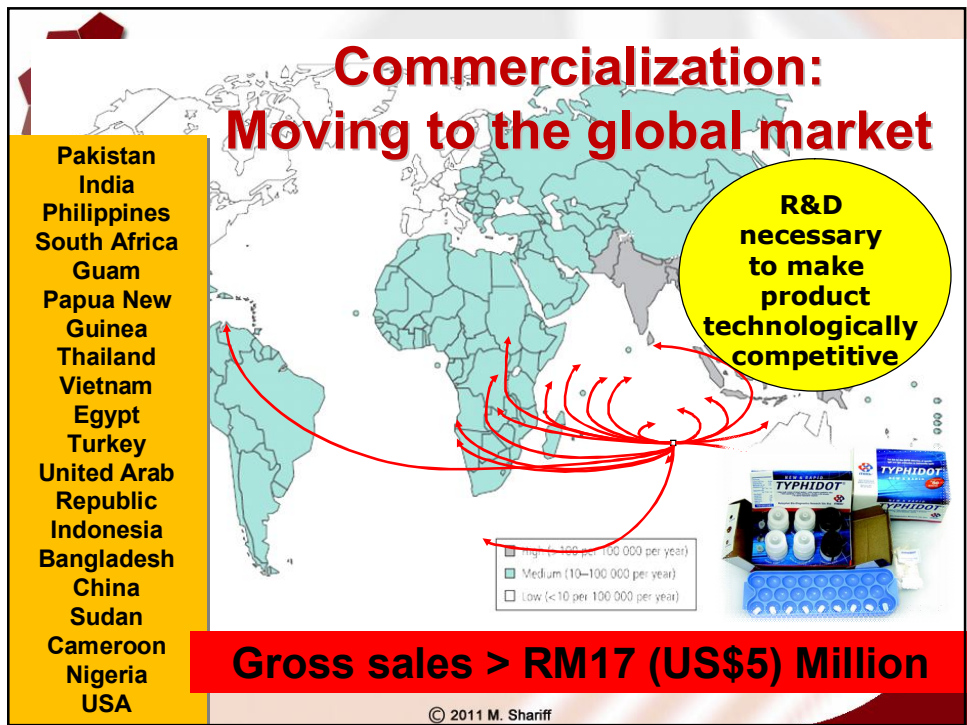
**20** Products/technologies

**Gross Sale >\$8.57 million**



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## Commercialization: Moving to the global market



**R&D necessary to make product technologically competitive**

- Pakistan
- India
- Philippines
- South Africa
- Guam
- Papua New Guinea
- Thailand
- Vietnam
- Egypt
- Turkey
- United Arab Republic
- Indonesia
- Bangladesh
- China
- Sudan
- Cameroon
- Nigeria
- USA

High (>100 per 100 000 per year)  
 Medium (10-100 000 per year)  
 Low (<10 per 100 000 per year)



**Gross sales > RM17 (US\$5) Million**

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# *Motivate researchers!*

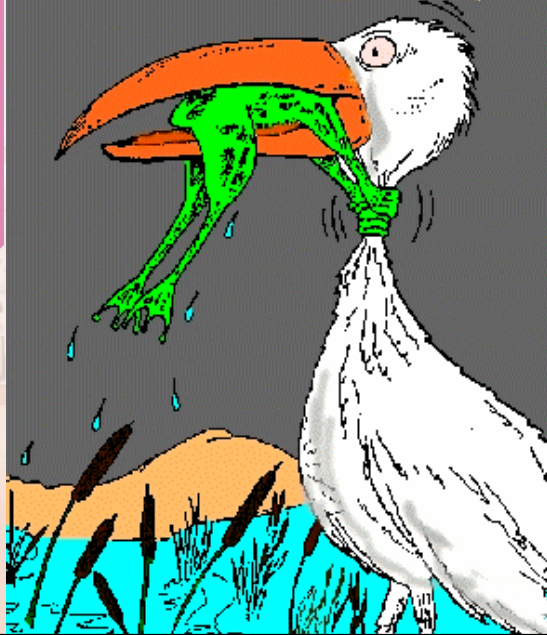


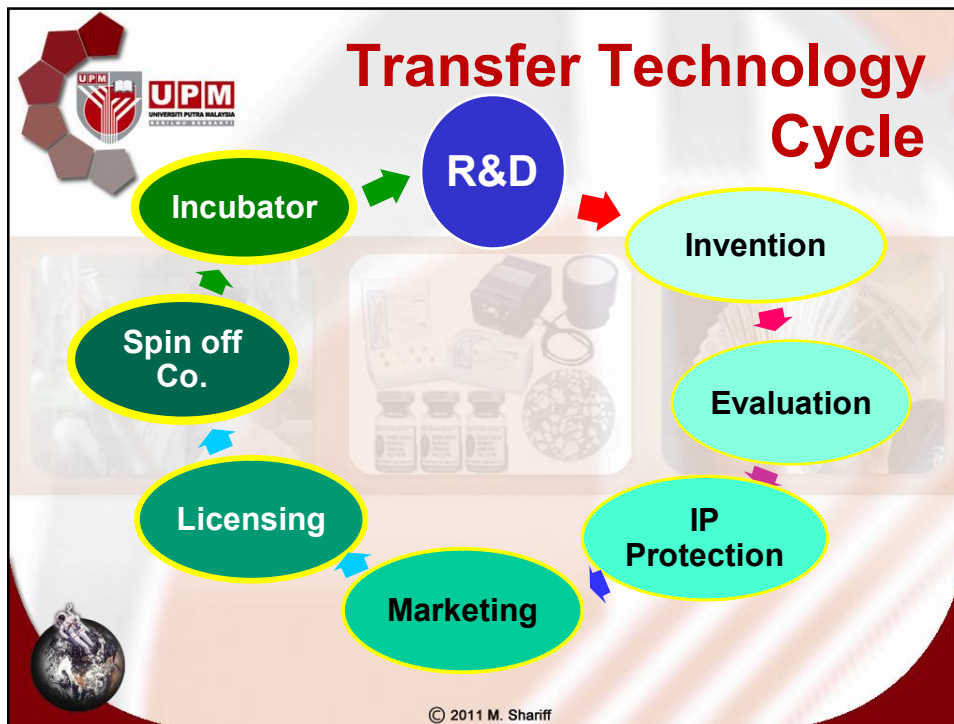
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**Nothing  
is  
impossible!**

**You can  
do it!**

**Never ever give up!**





**Provide Incentives for researchers!**

- ☺ **MR5,000 (US\$1600)** for filing patent
- ☺ **MR10,000** on receiving patent certificate

The slide includes the UPM logo in the top left and a photograph in the bottom right showing a man in a yellow shirt presenting a large ceremonial check to a woman in a yellow floral dress. The check is from UPM and is for the amount of RM 10,000.00. A globe is visible in the bottom left corner.

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# Ownership of IP Rights and Revenue Sharing



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## What Rights does a Patent Owner have?

- **Right to who may - or may not - use the invention**
- **Give license, to use invention on mutually agreed terms**
- **Sell to someone else, who will then become new owner of patent**



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# Patent Protection

Protection is granted for a limited period - generally 20 years



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# Once a patent expires

Protection ends

- Invention enters public domain
  - Owner no longer holds exclusive rights to invention
  - Becomes available to commercial exploitation by others



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## What Rights does a © Copyright Owner have?

- ⌋ Literary & artistic works (software) performing artists, radio, television
- ⌋ Exclusive right to print, publish, & sell
- ⌋ Lasts life of author & 50 years after death
- ⌋ Photographic works - minimum 25 years



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**50 years protection**

**Architectural works, paintings, sculpture**



## Basic concept of IP ownership

### Depends on various factors

- Generally inventor has ownership rights, however, national laws may differ & institution holds ownership
- Governed by employment contract
- Source of funding for project – government or private funds
- Contractual agreement



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## Basic concept of IP ownership

### In public institutions

- Researchers abide by national/ institutional laws
- Funds for R&D are usually obtained through institutional channels
- Researchers use institution's facilities & work hours to generate inventions



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## Basic concept of IP ownership

### In public institutions

- ☉ Institutions have to generate income for maintenance of lab facilities
- ☉ IP 100% owned by institutions
- ☉ Inventor given a share of income generated from TT



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## Basic concept of IP ownership

### In public institutions

- ❖ A staff member invention in the field of employment (regardless of time of day invented) belongs to the employer



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## Example of IP ownership by Institution

In the following countries:

- Brazil
- China
- Denmark
- Germany
- Japan
- Kenya
- Malaysia
- Malaysia
- Norway
- Singapore
- Spain
- Thailand
- UK
- USA



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## Example of Inventor as owner of IP

**Sweden**

**Motivate inventors**

**For optimal control of research results and  
transfer technology (know how)**

**To avoid negative impact on  
motivating researchers**

**Universities lack the skills and  
interest in commercialisation**



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## Example of Inventor as owner of IP

### Sweden system - benefits

Inventors can transfer IP ownership to industry

Permit University to manage IP or use to start up companies

**Lack of individual resources & expertise to exploit IP is a hindrance**

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## Benefits of Institutional IP ownership

Inst. have resources, expertise & the bear cost:

- To evaluate & IP
- For IP filing & maintenance
- Promotion and marketing of IP

**Provides facilities & incentives to upscale or renew IP technology**

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## Private sponsored research

### Benefits of collaborate R&D with private funds

- Enhance linkages/networking with private sector
- Market driven projects – easily commercialised by the partner
- Improve facilities & lab equipment



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## Private sponsored research

### Constraints

- Sponsor may not allow publications from research output
- May impose other conditions of their choice



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## Good agreement

### Clearly spell out TOR

- ✍ Obligations & responsibilities of each party
- ✍ Milestones & payments
- ✍ Material transfer if any
- ✍ IP ownership



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## Good agreement

### Clearly spell out TOR

- ✍ Commercialisation decisions
- ✍ Sharing of expenses – patent filing, maintenance, infringement, litigation
- ✍ Disputes resolution & termination of agreement



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## Private sponsored research – IP ownership

### Ownership depends on

Contribution by each parties

- ✓ Expertise
- ✓ Facilities – lab, equipment, animals for testing

- ✓ Benefits for each party

Ownership negotiated before the project begins



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## Private sponsored research – IP ownership

100% owned by institution with exclusive licensing to sponsor

As above but non exclusive licensing to sponsor

100% owned by sponsor with certain % of revenue to institution

Equal (50/50%) ownership or any other proportion as agreed upon

100 ownership by sponsor



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## Negotiations for contract agreement

- 😊 Outcome depends on the negotiations skills
- 😊 Knowledgeable in the project & requirements – expertise, facilities
- 😊 Work out a win-win situation



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## Non disclosure agreement (NDA)

- 😊 To safeguard interest of all parties sign NDA before detail discussion on technical aspects
- 😊 Sometime deal may not go through after several meetings
- 😊 NDA – flow of technical know how



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## Non disclosure agreement (NDA)

😊 NDA based on flow of technical know how

- From sponsor to institution
- From institution to sponsor
- From both parties



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## IP Management in UPM

Non disclosure agreement :-

- Students
- Evaluators

**New guidelines!**



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# IP Management

- On registration students assign IP to UPM
- Staff members

**A foreign student graduated from UPM filed a patent (based on his thesis work) in Singapore & sold the IP**

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# Joint ownership

**Researchers work with friends from other institutes without formal agreement**

**And gave 100% patent rights to them although the project was owned by my University**

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## Employment contract

Researchers joining or leaving the Univ./ PRI have to be managed well through appropriate legal documents



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## IP ownership – joint research programs


Depending on the contribution

- ❖ Negotiate for full ownership
- ❖ If joint 50:50 (if possible assigned to Univ. for commercialisation)
- ❖



Sign non disclosure agreement (NDA)

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# Patent – Joint patent ownership

**Solution: joint owner assign ownership to Univ.  
Royalty distributed to joint owner**

**Misbehaviour by co-owner – distributed share of IP  
to another party without consent of joint owner**

**Cannot be sold – as joint owner “Ministry”  
cannot give approval**

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BAHAGIAN PERUNDANGAN-UNDANGAN, PEJABAT PENDAFTAR  
LEGAL DIVISION, REGISTRAR OFFICE

Ruj Kami : UPM/Perundangan/5.17  
Tarikh : 05 Jun 2007

**Prof. Dato' Dr. Mohamed Shariff Bin Mohamed Din**  
Pegarah  
Pusat Inovasi dan Pengkomersilan  
Universiti Putra Malaysia  
43400 UPM Serdang  
Selangor Darul Ehsan

Y. Bhg Prof Dato'

Per: K  
A  
d

Kami menujuk kepada perkara di atas.

Bersama ini disampaikan sesalinan perintah mahkamah bagi permohonan sebelah pihak Profound Vaccine Sdn. Bhd yang menghalang UPM melalui perintah injunksi sementara oleh Mahkamah tersebut dari mengambil sebarang langkah dan/atau sebarang langkah lanjutan untuk berurusan dengan Malaysian Vaccines & Pharmaceutical Sdn. Bhd atau S.T. Biolife Limited atau sebarang entiti lain bagi tujuan atau memlesen hak hak dan kepentingan-kepentingan dalam "Intranasal Spray Vaccine of Pneumonic Pasteurellosis" atau sesuatu yang seakan-akan serupa dengan produk tersebut.

Sehubungan dengan itu, Yg. Bhg. Prof. dinasihatkan untuk menghentikan

## COURT INJUNCTION

DALAM MAHKAMAH TINGGI MALAYA DI KUALA LUMPUR  
(BAHAGIAN SIVIL)

PROFOUND VACCINE SDN BHD  
(No. Syarikat: 568317-W) ... PLAINTIF

DAN

- UNIVERSITI MALAYSIA TERENGGANU  
(DAHULUNYA DIKENALI SEBAGAI  
KOLEJ UNIVERSITI SAINS & TEKNOLOGI MALAYSIA)
- UNIVERSITI PUTRA MALAYSIA

**PERINTAH**  
(LAMPIRAN 4)

ATAS PERMOHONAN

dinamakan di atas **DAN SETELAH MEMBACA** Saman Dalam Kamar (*Ex-Parte*) bertarikh 21.5.2007, Affidavit yang diikrarkan oleh Mohd Shukri Bin Buiyong pada 21.5.2007, dan kesemuanya difailkan di sini **DAN SETELAH MENDENGAR** Enak

Practice due diligence!

Crucial all negotiations must take place in  
the presence of people knowledgeable in  
IP



## General Principles of Revenue Sharing

### Public institutions

- 100% revenue to institution until to recover expenses for IP protection & exploitation
- General trend - as revenue increases inventor's % share decreases
- Revised as necessary due to inflation & other economic factors



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## General Principles of Income Sharing

### Define stakeholders clearly

- Inventor's research group
- Technology Transfer Office
- Research Fund
- Scholarship fund & graduate education
- University



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## Revenue Sharing – UK Hospital

### 1st Tier

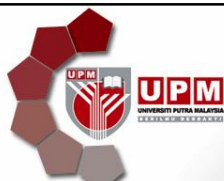
NHS Innovations North	Newcastle upon Tyne Hospitals NHS Foundation Trust
<b>30%</b>	<b>70%</b> (Inc. inventors share)

### 2nd Tier

Income	Inventor	Department	Trust
First £20,000	70%	20%	10%
Upto £100,000	50%	20%	30%
Upto £250,000	40%	20%	40%

<http://www.newcastle-hospitals.org.uk/downloads/policies/Operational/IntellectualProperty200702.pdf>

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## Revenue Sharing – a USA university

Total Net Income	Inventor %	University %
First \$100,000	50	50
Next \$300,000	40	70
Next \$600,000	30	70
Excess of \$100,000	25	75

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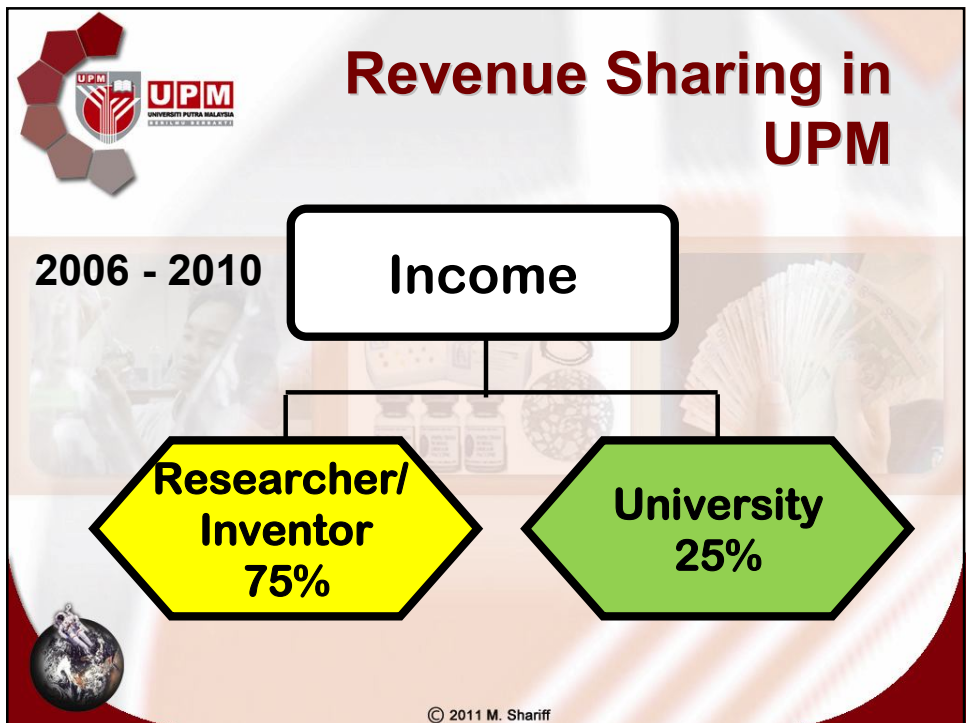
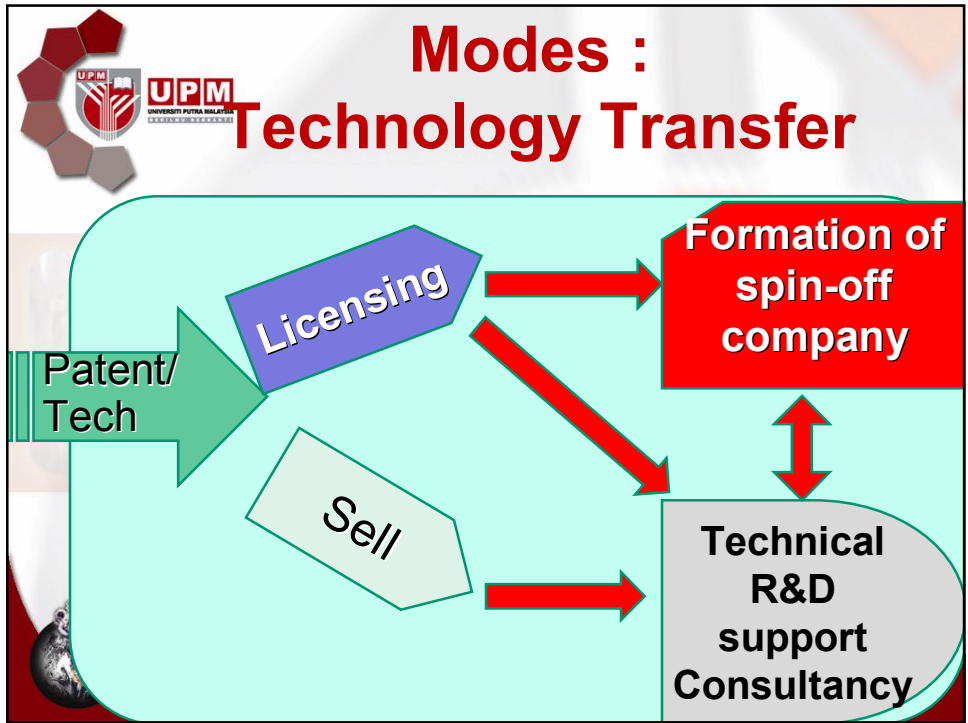
## Revenue Sharing – Ministry of Science Technology & Innovation Malaysia

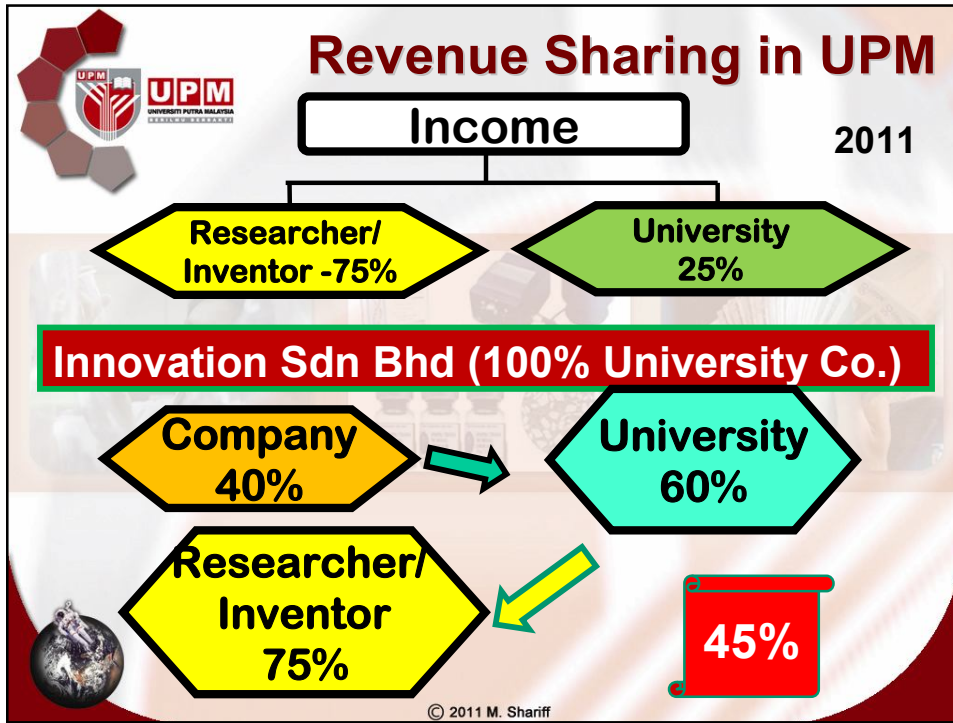
Net Revenue (Malaysian Ringgit = U\$0.32)	Inventor %	Institution
1 <sup>st</sup> 250,000 (US\$78,100)	100	0
Next 250,001 to 1 million	80	20
Next 1,000,001 to 2.5 million	60	40
Next 2,000,001 to 5 million	50	50
Exceed 5,000,001	40	60

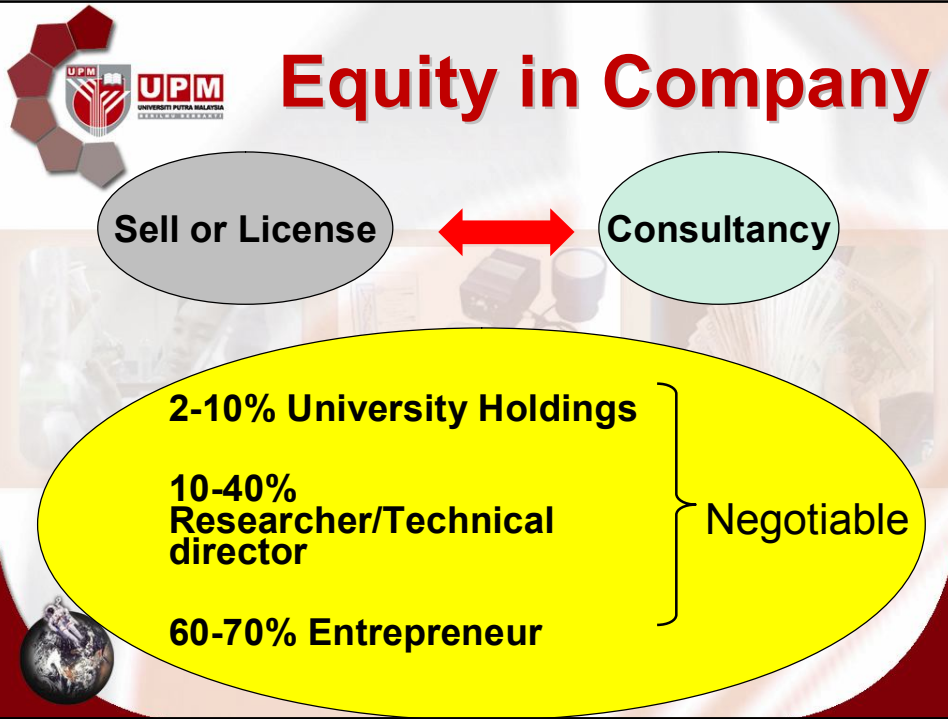


# MODES FOR TECHNOLOGY TRANSFER













## Equity for researchers

- **Constant renewing of technology – forefront in market**
- **Assurance of quality control of product in the market**



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## Form **SPIN OFF** companies



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**7 UPM's Spin-Off Companies**

 <p><b>Orchid Life Sdn Bhd</b> Abd Razak Mohd Isa Managing Director</p>	 <p><b>Putra Al-Mawashi Genetics Sdn Bhd</b> Haji Ridzuan Ahmad Managing Director</p>
 <p><b>Ecocillus Sdn Bhd</b> Dr. Abu Bakar Sade Executive Director</p>	 <p><b>Advanced Composites Engineering</b> En. Azman Johan</p>
	 <p><b>Bits, Nibbles and Bytes Sdn. Bhd.</b> Dr. Azma Abd. Hamid</p>

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*The secret of success ?*

*Whatever you do,  
do it with*

**Passion**

