



Curriculum Vitae
2000-2011

PROFESSOR DATO' DR.
MAKHDZIR MARDAN

DEPARTMENT OF AGROTECHNOLOGY
FACULTY OF AGRICULTURE
UNIVERSITI PUTRA MALAYSIA

CURRICULUM VITAE

2000-2008

MAKHDZIR BIN MARDAN

BRAINTREE

Technologies Sdn Bhd.

Autobiography



Professor Dato' Dr. Makhdzir Mardan

Educational Background

Makhdzir Mardan was born to a proletariat family of Mardan and Jamilah, on 25th February 1953, in Sungei Sudah, Muar, Johor. Despite being of rural upbringing, both Mardan and Jamilah wanted to have the best for their eldest son's education that they decided to send him to English medium school. He was lucky enough to have an American *peace corps* friend from whom he learned to speak English in the kampung and had the opportunity to borrow and read many magazines, periodicals, books and other sources of reading materials. It was during those years of working and playing in rubber and oil palm plantations that he gained much exposure to agriculture-related activities and finally made him to become fascinated with honeybees and carpenter bees. He used to beat and jar the wooden beams of the village houses to force the carpenter bees to emerge out of their nesting galleries so he could catch and put them in bottles. Later he would tether them with a string and played 'kites' with fellow friends in the village. With these agricultural setting and upbringing, it was only natural that he later chose to enroll into the Diploma in Agriculture program at Kolej Pertanian Malaya in 1970, upon completion of his secondary school education. After completing the diploma program, in 1974, he was awarded a scholarship to pursue his baccalaureate studies at Louisiana State University where he majored in Plant Protection before graduating in 1976. He subsequently furthered his study at a Masters level in Entomology from the same university, specializing in apiculture

(rearing of bees) and endeavored his research at the USDA's (United States Department of Agriculture) Bee Breeding and Laboratory Center at Baton Rouge, Louisiana, USA. Upon completion of his Masters program, he joined Universiti Pertanian Malaysia and worked as a lecturer at the Faculty of Agriculture. His interest in bees was enhanced and promoted further with the several generous funding supports he received from the International Development Research Center (IDRC) for a decade (1983 – 1993) which totaled RM 3.4 million. With these grants, he formed a multi-disciplinary research and development team, namely Malaysian Bee Research and Development Team (MBRDT) comprising of about 10 researchers from various agricultural institutions (UPM, MARDI, DOA, RISDA, FELCRA, and LPGM), as well as other local universities (UM and USM). In 1985, he was awarded the IDRC scholarship to embark on a 3-year sandwiched, Ph.D program between University of Guelph and Universiti Pertanian Malaysia, where he took courses in Gueph, Canada and conducted his research in the rainforest of Malaysia, based at Universiti Pertanian Malaysia.

Specialization: Apiculture, Pollination Biology & ICT in Agriculture

Makhdzir's interest in honeybees was founded as early as he was five years old. One day, an *Apis dorsata* colony built its nest under the eave of a branch of a tall durian tree that overlooked the window of his house. Then he used to wonder why this colony expanded and contracted in size during different times of the day. Never did he realize that this wonderful thought would instill great interest in him to pursue the subject matter for his PhD thesis 30 years later. That interest was further imbued and deepened when he studied the Qur'anic verses on the Chapter of Bees (verses 68&69 of *Surah An Nahl*) back in summer of 1976. There, elements of serendipity in his interest in honeybees in that the largest bee breeding laboratory in the United States was located near Louisiana State University, the place where he studied. When he enrolled for his PhD program at the University of Guelph, he deepened his interest in pollination biology under the tutelage of his supervisor and mentor, Professor Dr. Peter G. Kevan. Professor Gard Otis (Univ. of Guelph) and Professor Nikolaus Koeniger (Univ. of Frankfurt) were two bee scientists who influenced him with their technical expertise and honed his scientific mind in the field of apiculture and pollination biology. The International Development Research Center (IDRC), Canadian High Commission and Yayasan Di Raja Sultan Mizan (YDSM) provided him with generous research and development grants, enabling him to travel all over Malaysia to conduct research of his interests and conduct several extension services in beekeeping and honey gathering.

Landmark Endeavor, Awards & Honourable Mentions

Makhdzir is now engaged in several business initiatives in biofertiliser derived from Empty-Fruit-Bunch of Oil Palm via the controlled-environment composting plant, and also in hyperspectral-enabled, unmanned- aerial vehicle (UAV) for remote-sensing. Yet he is still continue his interest in bees with support from Yayasan DiRaja Sultan Mizan.

Over the career span of more than 30 years in UPM, he has established himself as a professional bee scientist with several landmark research & development areas endeavored in apiculture and pollination biology with research and consultancy experience in: i) α of the

Giant honeybees; ii) **hive-design** of the carpenter bees; iii) **Remote-sensing and GIS** on Giant honeybee distribution in the *Melaleuca* forest in Marang, Terengganu; iv) Distribution and locating of bee trees in the BELUM rainforest; v) formation of **beekeeping & honeyhunting cooperatives**; vi) **pollination** of tropical orchard trees (durian, star fruit, etc.); vi) development of **honey hunting as an ecotourism** item; vii) development of **honey bottle-design** for organic gelam (*Melaleuca* spp.) honey in Mercang, Terengganu.

He earned himself distinguished academic recognition for his work on bees, as exemplified in the following accolades of awards and honorable mentions: i) **J.W. Edmund Memorial graduate Award** (1986); ii) **G. F. Townsend Award** for international apiculture (1987); iii) **Humboldt Stiftung Fellowship** stint in Frankfurt, Germany (1993); iv) **IDRC Fellowship Award**; v) **The Royal Thailand, Excellent Research Award** in beekeeping research via the Asian Apicultural Association (AAA)(1993); vi) **IDRC Fellowship Award** (1985); vii) Listed in **Who's Who** in 1993 & 1994; viii) Awarded **D.I.M.P Dato'ship Award from DYMM Sultan of Terengganu** (His Royal Highness, Sultan Mizan Zainal Abidin) (2006); ix) **Research Excellent Award** UPM, (1999). He is appointed to the agriculture panel of the **Majlis Professor Negara** (May 2010 -2011). He is currently the **Chairman of the Local Organising Committee for the 11th Asian Apicultural Association** Conference for 2012.

Professional, International Appointments

His contribution and eminence at the international level is expressed through his appointments as: i) **APIMONDIA Panel of Experts, Bee Biology Commission APIMONDIA** (World Bee Congress) 1993-1996; **Vice President, Asian Apicultural Association**, (2011 -); ii) **Vice President, World Propolis Science Forum** (2012 -); iii) **Advisory Board, International Union Studies of Social Insects** (IUSSI) (2011 -); iv) **Chairman, Local Organising Committee, 11th Asian Apicultural Association Conference & ApiEXPO** (2011-2012).

International Recognition and Eminence

His works on the Asiatic Giant honeybees in have earned international accolades and recognition when his thesis subject on "**Yellow Rains**", a misidentified bee feces (thermoregulation strategy of the Giant honeybee) as agent orange, during the Vitenam War, earned the letter column in the Journal, **Nature** in 1989. Soon after, the **National Public Radio (NPR) of the National Geographic Society** of Washington published a 30-minute radio documentary on the '**Honeyhunters of Malaysia**'. The fascinating relationship between the Giant honeybees and human in the rainforest depicts a close-association of the triad between human-bees and the rainforest became an acknowledged phenomenon that deserve a 30-minute documentary in a competitive setting of the **DISCOVERY CHANNEL (Honeyhunters of Malaysia)** in 2009. That same year, **TOKYO TV** produced a couple of 5-minute documentaries in **BEE MUSEUM** for the Japanese TV market. His alma mater, University of Guelph, enlisted him as one of the accomplished alumni in the 2006 website and alumni magazine.

International TV Programmes (BBC, DISCOVERY CHANNEL, CNBC)

His opinions and scientific ideas are well sought after by CNBC in two science programmes (Singapore) and BBC World in a 30-minute documentary program (Develop or Die) which

expounds on the issue of the Asean education scenario and gearing up for the knowledge-based economy.

Business Initiatives & Interests

Upon retirement from the university he continue to pursue his other interests in business related to agriculture. He just established a company, ***BRAINTREE Technologies (since 2011)***, that involves in the application of hyperspectral imagery via remote-sensing mounted and maneuvered by Unmanned Aerial Vehicle (UAV or drone) for recision farming in oil palm plantation management. He currently sits in the board and of ***Inno-Integrasi Sdn. Bhd*** (BioNexus status company).

Administrative Experience

Since 1979, he has held key administrative positions in UPM as: i) ***Deputy Vice Chancellor*** for Development (2000 – 2003); ii) ***Director, AgroBio Unit***, the Chancellory (2003-2004); iii) ***Director for Institute of Plantation Studies*** (2003-2006), iv) ***Director, Multimedia Center*** (1999-2000); v) ***Director for CyberCreative Laboratory***, University Business Center (1997-1999), etc. He is currently the ***Head*** of the SubCluster HR & Education in the Food and Agriculture Cluster, ***Majlis Professor Negara*** in the Ministry of Higher Education.

At the national level, he contributed immensely in conceptualising the ***AGROPOLIS Master Plan*** (Ministry of Agriculture) and the proposal concept on ***Rainforest-derived Knowledge Industry (RKI)*** to the government of Malaysia in 2003 and 2000, respectively. He assumes several national appointments (***Biro Pertanian UMNO***, Agribusiness Cluster for ***MTEN, MIMOS*** committees for Flagship Applications for multimedia. In 2009, he spearhead a 50-people, royal delegation (Seri Paduka Yang DiPertuan Agong, Sultan Mizan Zainal Abidin), ***BRAIN GAIN Visit***, to the University of McGill (Montreal) and University of Guelph (Guelph) in Canada.

He is the current ***Chairman, KOPEMAT*** (Koperasi Pemungut madu Tualang Terengganu; since 2008). He was the ***President of the Ecological Society of Malaysia*** (2000 – 2002) and currently, he is the ***President, Kelab Pemain Golf UPM*** (KPGU since 2007).

He has been appointed by DYMM Sultan Mizan of Terengganu into the ***Board of Directors*** of the ***Yayasan DiRaja Sultan Mizan (YDSM)***. He is also Board member of the ***InnoIntegrasi Sdn Bhd*** (a company developing controlled-environment composting camber, factory on EFB).

Interests & Hobby

Makhdzir has wide-ranging interests and hobbies. He is an avid reader who has been subscribing (> 20 years) to more than 15 magazines and journals ranging from bees, science, economics, business, ICT, technologies, etc. He is a keen golfer.

CURRICULUM VITAE

SECTION A

A1. PERSONAL PARTICULARS

Name	MAKHDZIR BIN MARDAN Managing Director BRAINTREE Technologies Sdn Bhd.
Office Address	No 9, Jalan 3/2H Bangi 43650 Selangor
I.C.	530225-01-5675
PASSPORT No.	A 13612340; Expiry 28 July 2014
TEL	603-89464101; (hp) 012-2065177
FAX	603-89464146
EMAIL	makhdzir@gmail.com (preferred)

A2. CURRENT, PREVIOUS APPOINTMENTS & ADMINISTRATIVE POSITIONS

Managing Director (<i>BRAINTREE Technologies Sdn Bhd.</i>)	
Professor	2002-2011
Associate Professor	1989
Lecturer	1979
Deputy Vice Chancellor (Development)	2001-2003
Director, Institute of Plantation Studies	2004 - 2006
Director, Agrobio Chancellory	2003 - 2005
Director, Institute of Multimedia	1999 - 2001
Director, CyberCreative Laboratory, Univ. Business Centre	1995 - 1998

A3. ACADEMIC QUALIFICATIONS

Field/Institution	Year	Degree
Kolej Pertanian Malaya	1974	Diploma in Agriculture
Plant Protection/ Louisiana State University, Louisiana, USA	1976	B. Sc.
Entomology/ Louisiana State University, Louisiana, USA	1979	M. Sc.
Apiculture/ Guelph University, Guelph, Canada	1988	Ph. D

A4. SPECIALIZATION

Apiculture Pollination Biology; ICT applications for Agriculture

A5. PROFESSIONAL AFFILIATIONS AND MEMBERSHIPS

After 2000

1. BRAINTREE Technologies Sdn Bhd. (2012 -); *Managing Director*.
2. Technical Organising Committee of the 11th Asian Apicultural Association Conference & ApiEXPO, September 2012,; *Chairman*
3. Asian Apicultural Association (2011 -); *Vice-President*
4. World Propolis Science Forum, (2012 -); *Vice-President*
5. International Union Studies of Social Insects (IUSSI) (2011 -); *Advisory Board*.
6. KOPEMAT (Koperasi Pemungut Madu Tualang Terengganu), *President*, (2007 -)
7. Majlis Professor Negara, *Head*, Subkluster HR & Education, Kluster Pertanian dan Makanan
8. Ecological Association of Malaysia (PEM), *President*, 1995 – 2000
9. Asian Apicultural Association, *member*, 1996 – present
10. Persatuan Akademik UPM, *member*, since 1980
11. Appointed *Expert*, Standing Commission on Bee Biology of APIMONDIA, *member*, 1990 –
12. Agriculture Institute of Malaysia (AIM), *member*, 2009 – present
13. American Association for the Advancement of Science, *member*, 2005 – 2007

Before 2000

1. National Geographic Society, *member*, 1990 – present
2. International Bee Research Association, *member*, 1983 – 1988
3. Expert on the Standing Commission on Bee Biology APIMONDIA (World Bee Congress), *Pane of Experts* 1990 – 1996
4. International Union Studies of Social Insects (IUSSI), *member*, 1992 – 1996
5. Malaysian Plant Protection Society, *member*, 1984 – 1990
6. BEENET ASIA (network on bees for tropical Asia), *secretary*, 1991 – 1993

A6. WORKING COMMITTEES

After 2000

- 1) *Organising Chairman*, 11th Asian Apicultural Association Conference & APIEXPO for 2012
- 2) *Member*, Kluster Kerja Agribusiness (BCIC), 2007 - present
- 3) *Chairman*, UPM AGROPOLIS Master Plan, 2001-2003
- 4) *Member*, Jawatankuasa E-Community KETENGAH, Terengganu, 2001-2003
- 5) *Chairman*, Rainforest-Derived Knowledge Industries (RKI), 2000 – 2001)
- 6) *Advisor & Protem Chairman*, Koperasi Pengutip Madu Terengganu (KOPEMAT), Yayasan Di Raja Sultan Mizan (YDSM), Projek Pembotolan dan Pemprosesan Madu Gelam di Gong

Beris, Marang, Terengganu, 2008-present

- 7) **Member**, Biro Pertanian UMNO, 2006 - present
- 8) **Member of Board of Committees**, Yayasan Di Raja Sultan Mizan (YDSM), 2005 – present
- 9) **Vice President**, Kelab Pemain Golf UPM, 2006- 2008
- 10) **President**, Kelab Pemain Golf UPM, 2008 - present
- 11) **Interview Panel**, Skim Biasiswa National Science Fellowship (NSF), 2008
- 12) **Creative Director**, UPM Coffee Table Book, 2008 – present
- 13) **Chairman**, Several committees on UPM Master Plan (AGROPOLIS); UPM Tender Board(2001-2003); Taman Pertanian UPM (2001-2003); etc.

Before 2000

- 12) **Advisory Panel**, Multimedia Dev. for the Ministry of Education, Bahagian Teknologi Pendidikan, 1995
- 13) **Member**, Bee Biology panel of APIMONDIA (World Beekeeping Congress 1993
- 14) **Research Leader**, Malaysian Bee Research & Development Team; A bee research and development team comprising of UPM, MARDI, DOA, RISDA, UM, etc.; 1981 – 1993
- 15) **Regional Coordinator**, BEENET ASIA (R&D Networking on Tropical Bees), 1993
- 16) **Research Coordinator**, Giant Honey Bees Work Group – Asian Apicultural Association);1991-1993
- 17) **Discussion Group** on UPM EcoMedia City, MSC (With Paragon Universal),1996
- 18) **Technical Advisor**, ZHR Technologies on honeybusiness, 1997-2001

A7. CONFERRED AWARDS, RECOGNITION & PROFESSIONAL CERTIFICATES

Before 2000

- 1) **J.W. Edmund Memorial** (Univ. of Guelph, Canada)1985; graduate award
- 2) **Best IDRC Project** (Beekeeping for Development) 1986; Singapore-based, International Development Research Centre (IDRC-CANADA)
- 3) **G.F. Townsend Award** (Univ. of Guelph,Canada)1987; postgraduate award
- 4) Research Fellow, **HUMBOLDT-STIFTUNG Fellowship Award**(Germany) 1993
- 5) **Gold Medal Award (APIMONDIA-World Beekeeping Congress)** for Video Production on Rafter Beekeeping Project in Vietnam, Lausanne, **Switzerland**, 1993
- 6) 1st Runner-up, **Multimedia Asia** Contest, August, 1996

After 2000

- 7) **Royal Thai Award for Excellent Research Contribution to Asian Apiculture**, 5th AAA Conference, Bangkok, Thailand 2001
- 8) Listed in **Who's Who** (World), Who's Who Organization, 2001 - 2003
- 9) UPM **Gold Medal Award; Invention & Research Exhibition 2002**; In recognition of Innovative excellence and valuable accomplishments in research entitled *Putranet-Virtual Office*; 30th August 2002
- 10) **Golden Key Honor Society**, 2003
- 11) **Champion Contingent** (Contingent Leader) – 47th Merdeka Procession competition in Kuantan, 2004

- 12) **Dato' Paduka Mahkota Terengganu (DPMT)**. Awarded by the His Highness Sultan of Terengganu during his 44th birthday, 2006
- 13) Profiled as **Achievers of Univ. of Guelph Alumni** (Canada) January 2007
- 14) **Honorable Mention for Excellence in Feature Photography**, 2010 by Society of Publishers in Asia (SOPA) (Singapore-based) for the **DISCOVERY CHANNEL TV** documentary on **Honeyhunters of Malaysia**.

A8. PROFESSIONAL RECOGNITION

- 1) **Khasiat Madu dlm Al Qur'an, AL HIJRAH TV**, December 2010
- 2) **Magazine Interview (Estidotmy)**, *Pemanasan Global: Cetus Krisis Makanan*, Utusan Malaysia, pages 6 & 7, Wednesday, 25th June, 2008
- 3) **Interviewed for MEGA Publication**, *Antara Makanan dan Bahan Api*, Utusan Melayu, page 4, 9th May, 2008
- 4) **CNBC Interview** on Science Policy of Malaysia, Singapore, Dec. 2005
- 5) **CNBC Interview** on Prospects in Biotechnology from Biodiversity, Dec. 2008
- 6) **National Public Radio, (National Geographic Society), Washington D.C. USA**, Expert interview for a radio documentary on "honeyhunting in Malaysia", March 1996
- 7) **Discovery Channel & Finas**, selected documentary production on "Honey hunters of Malaysia", December 2008
- 8) **Tokyo TV (Bee Museum)**. Two parts of 5-minute series on honeyhunting in Malaysia, April 2009

Before 2000

- 9) **Panel Discussion on several RTM programmes "GLOBAL " 1995 - 1998**
- 10) **Radio Interview**, Rancangan Radio, **TEKNO-TANI** dan **BUMI HIJAU**, on RTM, 1990 - 1999

SECTION B**B1. TEACHING EXPERIENCE**

<i>Code</i>	<i>Name of Course</i>	<i>Academic Year</i>	<i>Credit Hour</i>	<i>Contact Hour</i>	<i>No. of Students</i>
PLP 4102	Apukultur	Second 2011	3	42	21
PRT2008	Agriculture and Man	SECOND, 2008/09	2	28	48
PRT2008	Agriculture and Man	FIRST, 2008/09	2	28	58
PRT2008	Agriculture and Man	FIRST, 2008/09	2	28	5
PRT2008	Agriculture and Man	SECOND, 2008/09	2	28	60
PRT2008	Agriculture and Man	SECOND 2008	2	28	5
PRT2008	Agriculture and Man	2006/2207	1	28	46
PRT2008	Agriculture and Man	Second, 2006/07	2	28	81
PRT2008	Agriculture and Man - B. Sc. (Engineering)	Second, 2006/07	2	28	66
PRT2008	Agriculture and Man - B. Sc.	First, 2006/07	2		88
PRT2008	Agriculture and Man (Accountancy)	First, 2006/07	2		75
PLP4101	Apiculture	2005/06	3+1	60 (42+28)	8
PLP4101	Apiculture	2004/05	3+1	60 (42+28)	10
PLP4101	Apiculture	2003/04	3+1	60 (42+28)	6
PT 111	Introductory Entomology	1980/1993	2+1	52 (24+28)	> 100 students every sem. 1980 until 1993

B2. SUPERVISION OF POSTGRADUATE STUDENTS

STATUS	PhD		M Sc.	
	Chairman	Member	Chairman	Member
Ongoing	3	2	7	
Graduated			5	

B2-1. CURRENT STUDENTS

No.	Name of Student	Year	Role		Title of Thesis
1	Naser Tajabadi	1 st Semester 2011	C	Ph. D.	Probiotics in the honey stomachs of Asian honeybees
2	Najmeh Sahehsahebzadeh	5 th Semester, 2010	C	Ph. D	Determination on the Genetic-Relatedness between Feral <i>Apis Dorsata</i> Colonies Settling in the Melaleuca Forest in Gong Beris, Marang, Terengganu by Using the DNA Studies
3	Izzat Fatanah Ibrahim	4 th Semester, 2009	C	M. Sc.	Evaluation on the Floral Sources & Diversity of the Giant Honey Bee (<i>Apis Dorsata</i>) in the Gelam Forest (<i>Melaleuca Cajaputi</i>) in Mercang, Terengganu
4	Montasir Omer Mahghoub Suliman	5 th Semester 2010	M	Ph. D.	Effect of <i>Bacillus thuringiensis</i> crystalline toxins on honey bee venom peptid (mellitin) on the lesser wax moth larva (<i>Achroisa grisella</i>).
5	Mohammed Omar Abu Samah	5 th Semester 2010	M	Ph. D	The effect of diet on venom composition of honeybee <i>Apis cerana</i> .

B2-2. PREVIOUS STUDENTS

No.	Name of Student	Year of Graduation	Role	Title of Thesis
1	Nguyen Quang Tan	1997	C	Some Aspects on the Reproductive Biology of the Giant Honey Bee (<i>A. Dorsata F.</i>) C.
2	Mai Shihah	1990	C	Foraging Behavior of <i>Apis cerana</i> in Relation to Floral Resources. M.
3	Rosazizi Abd Rahim	2003	C	Kesan Komputer Multimedia ke atas Kebolehan Matematik Kanak- Kanak Sekolah. M
4.	Khalid Aqlan	2001- incomplete	C	Varroaosis
5	Navies Maisin	1998 – 2002	M	Sequential sampling of rice

16	Mohammed Mehdi	2008 -2010	C	arthropods and visualization through multimedia Determining the flowering Melaleuca via Remote-sensing
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C= Chairman M=Member

B3. SUPERVISION OF UNDERGRADUATE STUDENTS

No.	Name of Student	Year	Program	Title of Thesis
1	Horhanida	2010	B. Sc	Remote-sensing on bee trees
2	Nur Fazreen Zainal	2009/2010	B. Sc. Horticulture	Burning rates of <i>A. dorsata</i> beeswax for perfumed candles
3	Steffi Sanoy	2009/2010	B. Sc. Horticulture	Tensile strength of <i>A. dorsata</i> beeswax
4	Ellyeen Almaseh Eesa bin Mohd Salleh	2009/2010	B. Sc. (Horticulture)	Pollination of <i>Jatopha curcus</i> by Honey Bees (<i>A. dorsata</i> & <i>A. cerana</i>) and Other Insect Visitors. C
5	Rosmawati Mat Salleh	2001/02	B.Sc (Agriculture)	Reproductive growth of Queen bees
6	Raja Mazura Raja Mamat	2001/02	B. Sc (Agriculture)	Nectar foraging behaviour
7	Norhaizan Mohamed Idris	2001/02	B. Sc (Agriculture)	Bee dance behaviour of honeybees
8	Nur Hedzlin Omar	2001/02	B. Sc. (Agriculture)	Round dance of honey bees
9	Siti Nazura Mohd Diah	2001/02	B. Sc. (Agriculture)	Process in queen mating behaviour

SECTION C

C1. RESEARCH AND DEVELOPMENT (R&D) GRANTS

After 2000

- 1) **Terengganu State Bee Industry Development Programme** (Sponsored and supported by Yayasan DIRaja Sultan Mizan (YDSM) and Terengganu State government; RM 2.25 million (2011 -2012)
- 2) **Malaysian Biotechnology Grant (MBGS)**; Bio-fertiliser Plant mill of utilizing EFB of oil palm; MOSTI RM 998 000.00; grant under InnoIntegrasi Sdn Bhd 2011; principal investigator
- 3) **Fundamental Research Grant Scheme (FRGS)**; Characteristics of Prebiotics from Malaysian honey and the Role in the Modulation of Probiotics; from KPT (with UiTM): RM

64 000.00

- 4) **Fundamental Research Grant Scheme (FRGS), The anti-cancer properties of Gelam honey on rats.**, from KPT **RM 90 000/**; 2010 - present
- 5) **Fundamental Research Grant Scheme (FRGS)**, Polymorphic levels based on microsatellite markers in the low and high nesting aggregates of *A dorsata* in Malaysia, from KPT **RM 60 000/**; 2010 - present
- 6) **Brain Gain Malaysia (M)**, Distinguished Visitor from MOSTI **RM 52,300**; Dec. 2008 – present
- 7) **E-Science Fund**, Economic Analysis of Beekeeping Project in Malaysia: The Case of *Apis mellifera*, **RM 115,483/**; Dec. 2006 – present
- 8) **Yayasan Di Raja Sultan Mizan (YDSM)**, Beekeeping Project in Gelam Area (in collaboration with Department of Agriculture, Malaysia), **RM 244,000/**; Dec. 2008 – present
- 9) **Research University Grant Scheme (RUGS)**, Pollen Diversity in Honey and Pollen Cell of Giant Honey Bee (*Apis dorsata*) Colonies in Gelam Forest, **RM 30,000/**; 2008 - present

Before 2000

- 1) **International Development Research Centre (IDRC)**, Beekeeping: Malaysia (RM 1.3 million), 1986-1990
- 2) **International Development Research Centre (IDRC)**, Beekeeping: Malaysia II (Promotion of Beekeeping); (RM 980 000); 1990-1993
- 3) **Mission Administered Fund**, Canadian High Commission; Establishment of beekeeping cooperative at Lubok Darat, Batu Pahat, Johor; RM 48 000/ 1984
- 4) **Local Initiatives Fund**, Canadian High Commission; Beekeeping development ; RM 45 000/; 1985

C2. EXTENSION & OTHER PROFESSIONAL SERVICES

Before 2000

- 1) Establishment of Beekeeping Cooperative in Lubok Darat, Batu Pahat, Johor 1985
- 2) Establishment of **Beekeeping Cooperative**, Pontian, Johor, 1989
- 3) Establishment of **Beekeeping Cooperative**, Sg. Gulang-Gulang, Tg. Karang, Selangor, 1987
- 4) Training conduct of more than 15 **beekeeping and queen rearing courses** to more than 600 beekeepers, 1983 - 1990
- 5) **Computer Awareness Program** at FELDA Terengganu. IT awareness program of KETENGAH, Terengganu, RM 50,000; 1993
- 6) Industrial training supervision to undergraduate trainees in multimedia development t more than 150 students from UPM, UTM, ITM and UKM, 1992 - 1999

After 2000

- 7) Establishment of **Honeyhunters' Cooperative**, Gong Beris, Marang, Terengganu as Chairman and Advisor, December 2008
- 8) Development of **Bottling Assembly & honey-bottle design** for Honeyhunters' Cooperative

C3. RESEARCH GRANTS and CONSULTANCY PROJECTS

After 2000

- 1) **Terengganu State Government**; Bee Industry Development for Honey and Ecotourism 2011-2012; RM 2.25 million; Consultancy and Development of the Honey Processing and Ecotourism development in Tasik Kenyir.
- 2) **Biotech Corporation Technology Grant 2011; RM 998,000.00**; Kj Factor and Traceability System for Controlled-Environment Composting fertiliser with Inno-Integrasi. Principal Researcher
- 3) **Fundamental Research Grant Scheme (FRGS) Fasa 2/2010**: RM 64 000/; 600-RMI/ST/FRGS 5/3/Fst (238/2010); co-researcher
- 4) **Fundamental Research Grant Scheme (FRGS)**
- 5) **MegaScience Framework for Sustained Agriculture 2011-2050**, Academy Science Malaysia; RM 300 000/ Jan 2010 – Jun 2010
- 6) **AGROPOLIS Master Plan**, as a subject-matter expert for Ministry of Agriculture; Conceptualised the national **AGROPOLIS Master Plan** (accepted RMK-9 in 2005) & Consultant to the Ministry of Agriculture (2008): Together with MARDI & the Ministry of Agriculture and other relevant agencies, proposed the concept that leverages on the immediacy of the relevant agencies and resources (human capital, financial, etc.), logistics, agro-based knowledge, services industries (halal hub, ICT-enabled infra & infostructure, agro-incubators, AgroBio R&D initiatives, etc 2007 & 2008
- 7) **Inno-Integrasi Sdn. Bhd.**, as consultant of the determination of the Kj Factor of Oil Palm waste for evaluation of Carbon trading & footprints

Before 2000

- 8) **Computer Awareness Program** at FELDA Terengganu. IT awareness program of KETENGAH, Terengganu, RM 50,000; 1993
- 9) Consultant for “**Beekeeping Feasibility Studies**” between 1983 and 1990 – **FELDA** (Sg. Tekam & Trolak; RM 25,000), **KEDA** (Kuala Nerang & MADA; RM 30,000), **FIMA** (Pantai Cenang; RM 30,000), **KPD** (Kota Kinabalu, Sabah; RM70,000), etc.
- 10) Beekeeping Feasibilities on *A. cerana* in **Southern Thailand & the Philippines**, CAD \$ 93,000; 1989
- 11) Social Impact Assessment on ICT (**Multimedia Super Corridor – MSC**) in Cyberjaya, RM 100,000; 1993
- 12) Technical survey on **beekeeping in U-MINH Forest, Vietnam Bee Research Center**, Hanoi, USD \$ 10,000 (RM 25,000); 1990
- 13) CD-ROM title on Bina Minda, **Ministry of Education**, RM 600,000; 1996

SECTION D

C1. PUBLICATIONS

Books(Chapters)

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M.M. Saberioon , **M. Mardan**, L. Nordin, A. Mohd Sood "Use the remote sensing and geographic information system to predict *Apis dorsata* nesting sites in Marang, Terengganu." Paper presented at the MRSS 6th International remote sensing and GIS conference and exhibition. Kuala Lumpur, Malaysia. April 2010

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Tajabadi N, **M. Mardan**., MY. Abdul Manap, M. Shuhaimi., S.R. Hashemi and M.M. Saberioon 7th Iranian Honeybee seminar Jun, 2011. Novel Potential Probiotic Bacteria found in Honey Stomach of Giant Honeybee (*Apis dorsata*) In Northeim Malaysia. Karaj, Iran.

Section F

Commercialized products

Patents

KOPEMAT Honey-bottle design (process of patenting) captures the motif of the leather-back turtle of Terengganu

Section H

Fellowships and Scholarships

Fellowship, *International Development Research Centre (IDRC)*, 1984 - 1985

Fellowship, *Humboldt Stiftung*, 1993

Distinguished Visitor, *Brain Gain Malaysia*, MOSTI, 2008

International MOU and Memberships

8 MOUs for research and academic exchange on Agriculture between UPM and Guelph University, and

in Medicine between McGill University and local IPTAs (UPM, UiTM, UNISZA) – Under the BRAIN GAIN VISIT of SPB Yang DiPertuan Agong to McGill University and Guelph University (September 2010)

National MOU

BRAIN GAIN MALAYSIA