

CURRICULUM VITAE

SECTION 1 : PERSONAL AND SERVICE PARTICULAR

Professor Dr. Shamala Devi A/P K.C
Sekaran
PhD (University Malaya)

Name : Fellow Academy of Science Malaysia (FASc)
ASM Council Member
Fellow of the Royal College of Pathologists (FRCPath, UK)
TWAS Fellow 2024

Current Position : Professor & Head of Research & Development

Faculty : UCSI Hospital

Nationality : Malaysia

Gender : Female

Race : Indian

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Previous employment : University Malaya: 1976-2017
: MAHSA University: Head School of Basic Medical Sciences (2017-2020)
: UCSI University: Deputy Deam Faculty of Medicine & Health Sciences (2021-2023)



SECTION 2 : ACADEMIC QUALIFICATIONS OBTAINED

No	Qualification	Field of Study	Class of Award	Date	Univ./Institution
	Fellow of the Royal College of Pathologists London	Microbiology	Class B	Nov 2019	The Royal College of Pathologists
1.	Doctoral Degree (PhD)	Immunology	Passed PhD	09/08/1986	UNIVERSITY OF MALAYA (UM)

2.	Masters Degree	Counselling	Masters	10/10/2011	UNIVERSITY OF MALAYA (UM)
3.	Masters Degree	Malaria	Passed Master Degree	21/06/1980	UNIVERSITY OF MALAYA (UM)
4.	Bachelor Degree	Genetics and Microbiology	Honours Degree	20/06/1975	UNIVERSITY OF MALAYA (UM)
5.	SPM/MCE/SAP/SPVM/SPMV	Language	MCE 1St Grade	31/12/1970	Holy Infant Jesus Convent

SECTION 3 : AREAS OF SPECIALIZATION

No	Main Areas	Sub Areas	Area (Specialization)	Keywords
1	Medical And Health Sciences	Medical Microbiology and Immunology	Virology & Immunology	dengue virus, CMV, BK, diagnostics, immune responses, cytokine profiles
2	Medical And Health Sciences	Molecular Microbiology	Virology	Dengue Diagnostics and Pathogenesis
3	Medical And Health Sciences	Medical Microbiology	Bacteriology	Antibiotic resistance mechanisms and detection
4	Medical And Health Sciences	Medical Microbiology	Virology	antiviral screening, drug discovery

SECTION 4 : CLINICAL DIAGNOSTICS DEVELOPMENT

No	Areas	Sub Areas	Role
1	Virology	<ul style="list-style-type: none"> Dengue IgM capture ELISA (1987) Haemagglutination Inhibition test for Dengue (1985-1990) Dengue PCR (2004-current) – multiplexed to serotype 	<ul style="list-style-type: none"> Developed assays and validated with samples from University Malaya Medical Centre (UMMC) Published Dengue PCR commercialized

		<ul style="list-style-type: none"> • JEV IgM Capture ELISA • JEV PCR <p>(2001-2007)</p>	<ul style="list-style-type: none"> • Assays developed and were used for service to UMMC and for research
		<ul style="list-style-type: none"> • CMV PCR • HSV PCR • EV71 <p>(3001-2007)</p>	<ul style="list-style-type: none"> • Assays developed and were used for service to UMMC and for research • CMV PCR commercialized
		Chikungunya PCR (2010)	Assay developed as a single plex and as a multiplex with Dengue 2 virus for use in research
		ZikaV PCR (2016-current)	Currently under development
		Multiplex PCR – ZIKA/DEN/CHIK (2016current)	Under development
		Commercial kits validation for Dengue IgM/IgG and NS1 capture ELISAs	<ul style="list-style-type: none"> • Validated with samples collected from UMMC and published (10 papers) • International validation with WHO and published (3 papers)
2	Serology	<ul style="list-style-type: none"> • Rapid IgM detection for Salmonella typhi • S. typhi PCR 	Assays developed for diagnostics and research
		Indirect Immunoperoxidase test for Rickettsial infections	IIP was validated with UMMC samples and used as a diagnostic tool for UMMC
		Streptococcus serotyping	Developed for research and now used by UMMC and private hospitals upon request
3	Bacteriology	MRSA PCR	Developed for research and licenced for commercial use by a local diagnostic facility

SECTION 5 : CLINICAL DIAGNOSTICS SERVICE

No	Areas	Sub Areas	Role
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1	Virology	Diagnostic Service (1990 – 2005)	Validation of laboratory diagnostic results for arboviruses – IgM Capture ELISA, HI, virus isolation. Consultation with clinicians on tests results and their interpretations
		Diagnostic Laboratory (2001-2005)	Head of virology service laboratory – diagnosis of all viral infections presenting, tests required, their validation, consultation with clinicians on results and interpretation. Results countersigned by clinical microbiologist
		Viral Molecular tests	Service to private and government hospitals for PCR tests to Dengue, JEV, EV71, CMV and HSV
2	Serology	Streptococcus serotyping	Service to private hospitals
3	On call service	1990-1998 service as microbiologist to UMMC	Processing of samples received after hours and on weekends

SECTION 6 :CONSULTANCY PROJECT

No	Name of Project (if applicable)	Role	Organisation	Start Date	End Date
	Dengue diagnostics	Director	BluSense Health Sdn Bhd	Oct 2018	current
1	Advisory Panel for the Control of Drugs and cosmetics	Consultant	Ministry of Health	1997	2000
2	Committee for the evaluation of adult vaccines	Consultant	Ministry of Health	1997	2000
3	Health Research Priorities for 9MP Medical Biotechnology Group	Consultant	Institute for Medical Research, Malaysia	2006	2006

4	National Clinical Practice for Dengue Guideline Committee as Pakar Virology	Consultant	Ministry of Health	2004	2009
5	National Dengue Laboratory Committee	Consultant	Ministry of Health	2004	2009
6	National Influenza Pandemic Preparedness Committee	Consultant	Ministry of Health	2004	2005
7	WHO Collaborating Centre for Arbovirus Reference & Research (DF/DHF)	Director	World Health Organization	2003	2007
8	Technical Advisor/Consultant	Consultant	Aviana Molecular Technologies	2009	2011
9	Technical Consultant	Consultant	GF Research & Capital	2010	2012
10	Consultant	Consultant	Sovereign innovations Sdn Bhd	2009	2012
11	Technical Advisor/Consultant	Consultant	Geneflux Biagnostics	2010	2012
12	Collaboration	Co-Researcher	Tulane University	2010	2012
13	Practical Attachment Placement	Advisor	International Medical University	2013	2014
14	Doctoral Examination	External Examiner	International Islamic University Malaysia	2013	2013
15	Second Professional Examination (Microbiology)	External Examiner	International Islamic University Malaysia	2013	2013
16	Practical Attachment Placement	Advisor	Universiti Teknologi MARA	2013	2013

17	Construction of EV71 harbouring endogenous miRNAs to control EV71 tissue tropism as a strategy for developing a live attenuated EV71 vaccine	External Assessor	Sunway University	2014	2014
18	Training for Screening Methods for Dengue Virus	Advisor	University Science Malaysia	2014	2014
19	Group External Examiner USM	External Examiner	University Science Malaysia	2014	current

Medical (Clinical)/Dentistry

No	Name of Project (if applicable)	Role Consultant/Clinical Consultant	Organisation	Duration
1	Laboratory Expert : Resource Person	Resource Person	Dengue Vaccine Initiative, International Vaccine Institute Seoul	2006 - 2012
2	Technical Advisor/Consultant	Clinical Consultant	Geneflux Biosciences Sdn Bhd	2009 - 2012
3	Consultant/Director R&D	Director R&D	X-VAX Sdn Bhd/Biovalence	2010 - 2013
4	Certificate of Appreciation, University of South Florida Health	Consultant	University of South Florida	2010 - 2013
5	Perakuan Pendaftaran	Consultant	Peraturanperaturan Kaunselor	2012 - 2013
6	Counselling	Clinical Consultant	Universiti Malaya	2012 - 2014

7	Program Ijazah Sarjana Muda Perubatan Dan Sarjana Muda Pembedahan (MBBS)	Student Support Coordinator	University Malaya	2013 - 2014
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SECTION 7 : TEACHING

Post Graduate

No	Course Title & Code	Years	No. of Students	No. of Contact Hours	Lectures/ Tutorials/ Practicals
1	Psychiatry	1990 -2013	4 per year	2 hours	Lectures
2	Masters in Neurology	2006-2011	4 per year	2 hours	Lectures
3	Masters in Pathology	1990 - current	12 per year	12 hours	Lectures,Tutorials on immunology
4	Masters in Basic Clinical Sciences	2001- current	30 per year	8 hours	Lectures,Tutorials On immunology
5	MBBS Stage 2	1990-2014	120 per year	50-70 hours	Lectures, practicals, tutorials, PBLs
6	UMMP new MBBS curriculum Stage 2	2014-current	120 per year	40 hours	Lectures, Theme sessions, PBLs
7	Dental Phase 2	1990-current	80 per year	10 hours	Lectures, practicals

SECTION 8 : SUPERVISIONS**Post Graduate (Ongoing)**

No	Name of Candidate	Field of Research/Title of thesis	Academic Session	Name of Degree	Due to be Completed
2	Soe Hui Jen	Electrical impedance and immune responses of dengue infected endothelial	2015/2016	Molecular Virology PhD	2019
3	Amni Adilah Ismail	Zika virus tropism and the endothelial breach	2018/2019	Molecular Virology MSc	2019
4	Maheswary Thambirajoo	CD4+ CTLs in severe dengue	2017/2020	Molecular Virology MSc	2020

5	Rhanye Mac Guad	HLA and non-HLA genetic susceptibility to dengue infection in sabah population	2019/2022	PhD	2022
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Post Graduate (Completed)

No	Name of Candidate	Field of Research/Title of thesis	Academic Session	Name of Degree	Year of Completion
36	Hassan Mahmood Kzar Jindal	Antimicrobial of peptides against Streptococcus Pneumoniae	2012/2013	Microbiology PhD	2017
1	Lum Kah Yean	Inhibition of infection of Candida Albicans using synthetic peptides	2013/2014	Microbiology MSc	2015
2	Adeline Yeo	Lack of Clinical Manifestations in asymptomatic dengue infections is attributed to broad down-regulation and selective up-regulation of host defense response genes.	2010/2011	Molecular Virology MSc	2014
3	Anusyah Rathakrishnan	Investigation into the Clinical and Immunological component as well as virus-induced modulation of the endothelium in dengue	2010/2011	Molecular Virology PhD	2014
4	Tang Yin Quan	Investigations into the anticancer properties of phyllanthus in human cancer cell lines	2009/2010	Cell Biology PhD	2013
5	Tan Wee Chee	Investigation into the antiviral properties of phyllanthus	2009/2010(1)	Virology MSc	2013
6	Mohammed Abdelfatah Mosa Al-Hoot	Inhibition of dengue virus entry and multiplication using novel small interfering RNA oligonucleotides and specific synthetic antiviral peptides	2008/2009	Medical Virology PhD	2012
7	Abdelkodose Mohammad	Molecular characterization of MDR Pseudomonas aeruginosa at UMMC	2009/2010	Molecular Bacteriology PhD	2012
8	Deepa	Quorum sensing in Acinetobacter	2008/2009	Molecular Bacteriology PhD	2012
9	Lee Sau Har	Anti-cancer effects of Phyllanthus spp on human cancer cell lines cellular signalling	2009/2010	Cell Biology PhD	2012

10	Le Cheng Foh	Identification of novel antibiotic resistance targets and development of antimicrobial peptides to Strep pneu	2009/2010	Bacteriology PhD	2012
11	Ummul Haninah Ali	Susceptibility of wild type versus sterile RIDL-513b strain of Ae aegypti to infection by dengue 2 and CHIKV	2008/2009	Virology MSc	2011
12	Ramaprabha Appana	Immunology	2006/2007	Virology PhD	2011
13	Thamil Vaani	Anticarcinoma effects of Bio-X	2007/2008	Antiviral MSc	2011
14	Benjamin Glenn Klekamp	Assessing the relationship of monocytes with primary and secondary dengue infection among hospitalized dengue patients in Malaysia, 2010: a cross-sectional study	2010/2011	Public Health MSc	2011
15	Lee Siew Kim	The role of neutralizing antibodies in dengue viral infections	2008/2009	Microbiology MSc	2011
16	Hj Osmali Osman	Characterization of dengue viruses isolated in Brunei	2008/2009	Molecular Virology PhD	2010
17	Leow Soon Sen	Functional properties of palm juice	2008/2009	Biotechnology PhD	2010
18	Ravindran Thayan	Identification of newer biomarkers and the development of newer diagnostics for dengue	2008/2009	Virology PhD	2010
19	Dr Sadna Rajan	Dental extracts for tooth repair	2001/2002	Dentistry Msc	2008
20	Wong Eng Hwa	Molecular Bacteriology	2004/2005	Molecular Bacteriology PhD	2008

21	Tan Hong Yien	Mikrobiology	2003/2004	Microbiology MSc	2008
22	Ong Kian Chye	Molecular Virology	2004/2005	Virology PhD	2008
23	Negar Shafiei	Mikrobiologi Perubatan/Antibiotic Resistance in Staphylococcus aureus	2003/2004	Molecular Bacteriology PhD	2008
24	Navindra Kumari	Genetics of antibiotic resistance mechanisms of Streptococci pneumoniae	2003/2004	Molecular Bacteriology PhD	2008
25	Yong Yean Kong	Molecular Virology	2004/2005	Microbiology MSc	2008
26	Yiaw Kun Chu	Patogenesis/The pathogenetic study of Tioman Virus in animal models	2003/2004	Virology PhD	2007
27	Tan Hock Leong	Bioteknologi	2003/2004	Bacteriology MSc	2006
28	Najwa AboBakar	Imunologi/palm oil and tumour regression	2000/2001	Immunology MSC	2004
29	Aymen Gebriel	Mikrobiologi Perubatan/Molecular diagnostics of Leptospirosis	2001/2002	Medical Science MSc	2004
30	Tang Swee Seong	Bioteknologi/Phage display library of S. typhi epitopes	2003/2004	Molecular Bacteriology MSc	2003
31	Tay Sun Tee	Seroepidemiology of Rickettsial infections in Malaysia	1998/1999	Bacteriology PhD	2000
32	Vijeayratnam Panchanathan	Biotechnology/ Immunological studies on GroEL Heat Shock Protein of Salmonella typhi	1996/1997	Virology MSc	1998

33	Nesamani Ganesan	Biotechnology/A study of two variable regions (V2 & V6) in the 16S Ribosomal RNA gene of Salmonella species	1995/1996	Molecular Bacteriology MSc	1998
34	T Valliyappan	Development of Monoclonal antibodies to Japanese Encephalitis	1993/1994	Virology MSc	1996
35	Tay Sun Tee	Campylobacter Diarrhoea	1996	Bacteriology MSc	1997

SECTION 9 : RESEARCH PROJECTS / GRANTS

Research Project : Completed

No	Title	Project No.	Source and Amount of Financial Assistance	Start	End	Role
1	Effect of preoperative curcumin in breast cancer patients	RG374-15AFR	IPPP	2015	2016	Co-Investigator

			(RM 47400.00)			
2	Antibacterial testing against nosocomial infectious bacteria omycetes	RP019C-14AFR	IPPP (RM 22000.00)	2014	2016	Principal Investigator (PI)
3	Novel peptides as antimicrobials.	UM.C/625/1/HIR/MOE/MED/40	HIR (RM 816000.00)	2013	2016	Principal Investigator (PI)
4	Endothelial dysfunction and drug development in dengue hemorrhagic fever	UM.C/625/1/HIR/MOE/MED/20	HIR (RM 944000.00)	2012	2016	Principal Investigator (PI)
5	Differential Hcg Protein Expression in the Pathogenesis of Gestational Choriocarcinoma, Normal and Molar Pregnancy Using 2D Gel Electrophoresis/MALDI-TOF	NIH	(RM 145000.00)	2013	2015	Co-Investigator

6	Protective immune responses to the blood stages of infection of long tailed macaques by Plasmodium knowlesi	ER015-2013A	IPPP (RM 161000.00)	2013	2015	Principal Investigator (PI)
7	Endothelial cell barrier responses to African trypanosomes and Dengue virus infection	NIH	John Hopkins (RM 470000.00)	2012	2015	Co-Investigator
8	Integrated Photonics for Biosensors	UM.C/625/1/HIR/MOHE/H-20001-00-E000053	HIR (RM 6228400.00)	2011	2015	Co-Investigator
9	Comparison of neutralising and enhancing antibodies in clinical symptomatic dengue patients and asymptomatic household members	PV039-2012A	IPPP (RM 40000.00)	2012	2014	Principal Investigator (PI)
10	Development Of An Electrochemical Biosensor Using Disposable Screenprinted Electrodes For The Detection Of Dengue Infection	MOHE-HIRG A000007-50001	HIR (RM 222000.00)	2012	2014	Co-Investigator
11	Anticancer properties of Phyllanthus spp : mechanism of action and evaluation as a potential antitumor agent	RG391-11HTM	UMRG (RM 120000.00)	2011	2014	Principal Investigator (PI)
12	Feasibility study to evaluate use of mobile technologies for development of a febrile clinical infectious disease surveillance and research database	NIH	PUGSOM (RM 82400.00)	2012	2013	Principal Investigator (PI)

13	Redesigning antimicrobial peptides with improved therapeutic efficacy against Streptococcus pneumoniae 2- Molecular characterization of multidrug resistance Pseudomonas aeruginosa at the University of Malaya Medical Center	PS187/2009B	IPPP (RM 63000.00)	2012	2013	Co-Investigator
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14	1- Anticancer effect of Phyllanthus spp on human cancer cell lines cellular signaling 2- The anticarcinogenic properties of Phyllanthus spp 3- development of small interfering siRNA as a novel antiviral therapeutics for the attenuation of dengue virus infection and for the investigation of putative viral receptors 4- investigation into the antiviral activity of Phyllanthus spp 5- investigation into the antiviral properties of pereskia bleo and Duranta repens	PV053/2011B	IPPP (RM 125000.00)	2011	2013	Principal Investigator (PI)
15	1. T-cell responses towards HLA restricted NS3 peptides in Dengue Infections 2. Effect of the flavanoids and phenolic compound from the Malaysian honey on the insulin signaling pathway of the beta cells 3. The effect of the adrenergic and adenosine receptors on the signal transduction of the inflammatory pathways in bovine retinal endothelial cells and rat Muller cells under hyperglycemic condition	RG252/10HTM	IPPP (RM 53600.00)	2011	2013	Principal Investigator (PI)
16	Immunological and genetical profiles of progression of Dengue disease	UM.C/625/1/HIR/006	HIR (RM 445000.00)	2010	2013	Principal Investigator (PI)
17	Evaluation, assessment and commercialization of Phyllanthus watsonii as an antiviral therapeutic to Dengue virus	53-02-03-1051	MOSTI (RM 466000.00)	2010	2012	Principal Investigator (PI)
18	Anticancer effect of Phyllanthus spp. on human cancer cell line's cellular signalling	PV053/2011B	IPPP (RM 27030.00)	2010	2011	Principal Investigator (PI)
19	Development of small interfering RNAs (siRNA) as novel antiviral therapeutics for the attenuation of dengue virus infection and for the investigation and for the investigation of putative viral receptors	12-02-03-2058	IPPP (RM 12000.00)	2010	2011	Principal Investigator (PI)
20	Investigating into the antiviral activities of Phyllanthus spp	PS181-2010A	PPP (RM 27000.00)	2010	2011	Supervisor

21	Investigation into the antiviral activity of <i>Pereskia bleo</i> and <i>Duranta repens</i>	PS188-2010A	PPP (RM 15000.00)	2010	2011	Supervisor
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22	Molecular characterization of multidrug resistant <i>Pseudomonas aeruginosa</i> at the University of Malaya Medical Centre in Malaysia	PS184-2010A	PPP (RM 28000.00)	2010	2011	Supervisor
23	The detection and evaluation of the significance of protective humoral immune responses to dengue infection in human	PS182-2010A	PPP (RM 13000.00)	2010	2011	Supervisor
24	Mechanism of vascular endothelial leakage in dengue hemorrhagic fever	RG081-09HTM	UMRG (RM 138000.00)	2009	2011	Principal Investigator (PI)
25	TDR/PDVI 2nd dengue test evaluation: Evaluation of IgM and NS1 detection tests	NIH	TDR/WHO (RM 50000.00)	2009	2011	Principal Investigator (PI)
26	Multicentre study on cardioprotective effects of palm vitamin E tocotrienols: evaluation of their impact on immune function	55-02-03-1011	IPPP (RM 240000.00)	2007	2011	Principal Investigator (PI)
27	Immunoparameter affected by palm oil tocotrienol rich fraction in hypercholesterolemic individuals	PS115-2009A	PPP (RM 25000.00)	2009	2010	Supervisor
28	The anticancer properties of <i>Phyllanthus</i> spp. in human cancer cell lines	RG391-11HTM	UMRG (RM 30000.00)	2009	2010	Principal Investigator (PI)
29	The cytotoxic and apoptotic effects of BIO-X, a palm product on human skin cell lines	PS113-2009A	PPP (RM 29500.00)	2009	2010	Supervisor

30	Putative leakage mechanisms of endothelial cells in dengue haemorrhagic fever patients	FS245-2008B	IPPP (RM 75000.00)	2008	2010	Principal Investigator (PI)
31	Susceptibility of wild type versus genetically sterile RIDL 513 strain of Aedes aegypti to infection by DEN-2 and Chikungunya virus	PV053/2011B	IPPP (RM 75000.00)	2008	2010	Co-Investigator
32	Development of small interfering RNAs (siRNA) as novel antiviral therapeutics for the attenuation of dengue virus infections and for the investigation of putative viral receptors	12-02-03-2058	IPPP (RM 343000.00)	2007	2010	Principal Investigator (PI)
33	Screening and discovery of lead compound with antiviral properties as potential candidates for drug development	53-02-03-1002	IPPP (RM 480000.00)	2007	2010	Principal Investigator (PI)

34	Screening and discovery of lead compounds with antiviral properties as potential candidates for drug development	53-02-03-1002	MARDI (RM 550000.00)	2007	2010	Principal Investigator (PI)
35	Anticarcinoma properties of Bio-X	NIH	(RM 75000.00)	2008	2009	Principal Investigator (PI)
36	Parvovirus B19 infection in pregnancy : Prevalence and vertical transmission and pregnancy outcomes in an unselected population of Malaysian births	FS235/2088C	(RM 75000.00)	2008	2009	Co-Investigator
37	Susceptibility of wild type versus genetically sterile RIDL 513 strain of Aedes aegypti to infection by dengue-2 and chikungunya virus	PS165-2008C	PPP (RM 28800.00)	2008	2009	Supervisor
38	The prevalence and vertical transmission of Coxsackie virus and Toxoplasma gondii in an unselected population of Malaysian births	06-01-03-SF0441	(RM 173000.00)	2008	2009	Co-Investigator

39	Antibiotic peptides and resistance in <i>Streptococcus pneumoniae</i>	12-02-03-SF0353	MOSTI RM9 (RM 219000.00)	2007	2009	Co-Investigator
40	Evaluation of Palm tocotrienol on immune function	NIH	MPOB (RM 320000.00)	2007	2009	Principal Investigator (PI)
41	The role of neutralizing antibodies in dengue infection	8121129	MOSTI RM9 (RM 291000.00)	2007	2009	Co-Investigator
42	Rapid detection, identification and antimicrobial susceptibility of Enterobacteriaceae using molecular techniques	12-02-03-2004	IPPP (RM 199991.00)	2006	2009	Principal Investigator (PI)
43	The role of siRNAs in dengue virus infections	H-200001-00-E000079	HIR (RM 323000.00)	2006	2009	Principal Investigator (PI)
44	Molecular epidemiology of dengue viruses in Brunei	211611414231395	Brunei Government (RM 240000.00)	2005	2009	Principal Investigator (PI)
45	Role of Palm Oil in Tumour Regression	NIH	MPOB (RM 30000.00)	2008	2008	Principal Investigator (PI)
46	Role of cytokines and HLA-A24 and -B07 allele associations with dengue fever and dengue hemorrhagic fever patients in Malaysia	PS169-2007C	PPP (RM 10000.00)	2007	2008	Supervisor
47	Characterization of dengue specific T & B cell epitopes and their association with viral peptides/sequences in the immunopathogenesis of dengue fever and dengue haemorrhagic fever infections	66-02-03-0041	SAGA (RM 460000.00)	2005	2008	Principal Investigator (PI)
48	Rapid Bacterial Identification & Detection of Antibiotic resistance Genes in Gram Positive Cocci using Molecular Techniques	0-02-02-0112	IRPA (RM 475000.00)	2003	2008	Principal Investigator (PI)

49	Role of cytokines and HLA with DF and DHF in Malaysia	NIH	IRPA RM6 (RM 10000.00)	2007	2007	Consultant
50	Evaluation of dengue diagnostic kits	36-02-03-6047	TDR/WHO (RM 35000.00)	2006	2007	Project Leader
51	Molecular Diagnostics of Leptospirosis	NIH	MOSTI (RM 50000.00)	2000	2002	Principal Investigator (PI)
52	Molecular Studies of Rickettsial Infections	06-02-03-0020	IRPA (RM 242000.00)	1996	2000	Principal Investigator (PI)
53	Molecular Studies on Typhoid Fever	02-03-0450	IRPA (RM 262000.00)	1996	2000	Principal Investigator (PI)
54	Cytokines and inflammatory mediators in dengue infection	NIH	(RM 50000.00)	1993	1995	Principal Investigator (PI)
55	Campylobacter diarrhoeas	3/077/01	R&D (RM 160000.00)	1990	1993	Co-Investigator

Research Project : Submitted and Ongoing

No	Title	Project No.	Source and Amount of Financial Assistance	Start	End	Role
	Advancing Dengue Therapeutic Development: Utilizing Animal Models for Enhanced Efficacy and Safety Assessment	(in preparation with NIBM – waiting for submission to be opened)	RM2.5 million			

	Rapid evaluation kit for detection of neutralization antibodies and antibody dependent enhancement (ADE) in Dengue and Chikungunya infection using Mylc and Single Round Infectious Particles (SRIPs)	GHIT Fund ReferenceNumber: GHIT-RFP- PD-2023-002	RM2 million			
	Technical Cooperation (T/C) Title: Development of a rapid evaluation kit for detecting neutralizing antibodies and antibody-dependent enhancement in dengue infection using immortalized myeloid cells and single round infectious particles.	Science and Technology Research Partnership for Sustainable Development SATREPS	RM3.4 million			
	Characterization and evaluation of aptamer based Screen Printed Electrode (SPE) biosensor derivatives as a potential method for differentiating antibodies among Flaviviruses	FRGS/1/2021 /SKK06/UCSI /01/1	FRGS RM156,000. 00	Nov 2021	March 2024	Principal Investigator (PI)

	Investigations into the Mechanisms of Vascular Leakage in Severe Dengue that are associated with Diabetes and Obesity	REIG-FHMS2021_31	RM41,000	April 2021	March 2024	Principal Investigator (PI)
1	Determination of Dengue virus infection in selected cohorts in Selangor, Kuala Lumpur and Perak	DNG13	Sanofi Pasteur, France (RM59,685)	2016	2017	Principal Investigator (PI)
2	Electrical impedance and immune responses of dengue-infected endothelium under flow system	PG255-2015B	PPP (RM 19000.00)	2016	2019	Supervisor
3	Emphasizing the pathophysiology of endothelial disruption by the DENV virus in hepatic, retinal, renal and dermal endothelial cells: a preclinical and clinical appraisal	PG045-2014B	PPP (RM 25000.00)	2015	2018	Principal Investigator (PI)
4	Investigations on certain innate and specific cellular and functional immune correlates of clinical dengue infection	PG044-2014B	PPP (RM 24000.00)	2015	2018	Supervisor

5	Novel synthetic peptides as antimicrobials against Streptococcus pneumoniae	PG090-2016A	PPP (RM 5000.00)	2016	2017	Supervisor
6	Effects of dengue virus on microvascular endothelial cells	RP042C-15HTM	UMRG (RM 106260.00)	2015	2017	Co- Investigator
7	Investigations on functional correlates of virus- specific CD4+, CD8+ T cell in different stages/types of clinical DENV infection	RP042A-15HTM	UMRG (RM 290,200.00)	2015	2017	Co- Investigator
8	The potential role of mucosal associated invariant T cells in dengue	RP042B-15HTM	UMRG (RM 109260.00)	2015	2017	Principal Investigator (PI)
9	Emerging concepts in Hepatitis B and Hepatitis D viral coinfection in Kuala Lumpur, Malaysia	RP021A-13HTM	UMRG (RM 258000.00)	2014	2017	Co- Investigator
10	Immune mechanisms of disease and immune correlates of protection among emergency human respiratory viruses among children in Malaysia	RP021B-13HTM	UMRG (RM 258000.00)	2014	2017	Co- Investigator
11	Neuroviruses and the blood brain barrier	RP021C-13HTM	UMRG (RM 268000.00)	2014	2017	Principal Investigator (PI)

PUBLICATION LIST

SECTION 18: Publication Summary	
Total Articles in Publication List	234
Articles with Citation Data	160
Sum of the Times Cited	5600

Average Citations per Article	12.06
H-Index	42
i10-Index	40
	Publications
	5 years Impact Factor

1. Under Review: Personalized Precision Medicine (Global Health Journal)
2. Under Review: Autism and Viral Infections (Global Health Journal)
3. Under Review: Zika Virus and the vascular endothelium (AJTMH)
4. Single Nucleotide polymorphisms in Dengue infections (in preparation)
5. Gaythri Thergarajan & Shamala Devi Sekaran (2023) Diagnostic approaches for dengue infection, *Expert Review of Molecular Diagnostics*, 23:8, 643-651, DOI:10.1080/14737159.2023.2234815
- 1 Rahim, N.S.; Wu, Y.S.; Sim, M.S.; Velaga, A.; Bonam, S.R.; Gopinath, S.C.B.; Subramaniyan, V.; Choy, K.W.; Teow, S.-Y.; Fareez, I.M.; et al. Three Members of Transmembrane-4-Superfamily, TM4SF1, TM4SF4, and TM4SF5, as Emerging Anticancer Molecular Targets against Cancer Phenotypes and Chemoresistance. *Pharmaceuticals* 2023, 16, 110. <https://doi.org/10.3390/ph16010110>
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SECTION 10 : INTELLECTUAL PROPERTY RIGHTS

No	Product Name	Type	Reference No	Level	Year
1.	Novel synthetic antimicrobial peptides against <i>Candida albicans</i>	Patent		University	2014
2.	Anticancer treatment	Patent	PCT/MY2013/000115	International	2014
3.	Novel synthetic antimicrobial peptides against <i>Streptococcus pneumoniae</i>	Patent		University	2014

4.	Peptides having antimicrobial activity	Patent	13/920	International	2014
5.	Peptides having an antimicrobial activity	Patent	13/920.322	International	2013
6.	Peptides having antimicrobial activity	Patent	13/920.393	International	2013
7.	Dosage regime of fusion compounds	Patent	PCT/MY2013/000114	International	2013
8.	A method for diagnosis of Enterovirus 71 Detection	Patent	PTA4.19	International	2012
9.	A method for diagnosing human herpes simplex virus infections	Patent	PTA4.18	International	2012
10.	A method for diagnosing Japanese encephalitis virus	Patent	PTA4.17	National	2012
11.	Novel specific synthetic antiviral peptides against Dengue virus	Patent	UM.TNC2/UMCIC/603/440	National	2012
12.	Peptides having antimicrobial activity	Patent	PTA4.82	National	2011
13.	Expression data of Streptococcus pneumoniae against penicillin	Copyright	GSE21709	International	2010
14.	Novel synthetic peptides derived as a drug for Streptococcus Pneumoniae	Patent	UMCIC/628/252	National	2010
15.	Dengue virus type 2 isolate DS09-280106	Copyright	EU179859	International	2009

16.	Dengue virus type 2 isolate DS31-291005	Copyright	EU179857	International	2009
17.	Dengue virus type 1 isolate DS06-210505 complete genome	Copyright	EU79860	International	2009
18.	Dengue virus Type 1 isolate DS212-110306 complete genome	Copyright	EU179861	International	2009
19.	Dengue virus type 2 isolate DS04-221205 complete genome	Copyright	EU179858	International	2009
20.	Molecular dignostic methods for viral encephalitis	Patent	PI 20081919	National	2008
21.	Real-Time Polymerase Chain Reaction procedure for detecting	Patent	PI20081760	National	2008
	and quantification of Cytomegalovirus				
22.	Detection and quantitstion of BK virus	Patent	PI 20093197	University	2008
23.	Method and kit For detecting of Methicillin- Resistant Staphylococcus Aureus(MRSA)	Patent	PI 20052964	National	2005
24.	Method for simultaneous detetcion of Staphylococcus aureus associated antibiotic resistance genes	Patent	PI 20053073	National	2005
25.	Detection, serotyping and quantification of Dengue virus	Patent	PI 20053475	National	2005
26.	Method for detection of dengue virus	Patent	PI 20053042	National	2005

27.	Method for detection of Streptococcus pneumoniae and associated antibiotic resistance genes	Patent	PI 20052928	National	2005
28.	Method for The detection of Streptococcus pneumoniae and associated antibiotic resistance genes (Pbp1a, Pbp2b And ErmB)	Patent	PI 20052928	National	2004
29.	Differentiation of S.aureus and Coagulase negative staphylococci and method for simultaneous detection of methicillin susceptibility using triplex real time PCR assay.	Patent	PI20053073	National	2004

SECTION 11: PRESENTATIONS

No	Event	Title of Paper Presented	Role	Start Date	End Date	Organiser	Level
	Inaugural FAScinate Talk	The many unanswered questions about Dengue	Speaker	12 th Nov 2019	12 th Nov 2019	Academy Science Malaysia	National
	Hunan Innovative International Conference on	Anticancer properties of Four Phyllanthus spp	speaker	23 rd Oct 2019	25 th Oct 2019	Hunan University of Chinese Traditional Medicine	International

	Biomedicine and Chinese Medicine						
	1 st International Symposium on Medical resources along One Belt and One Road	Antimicrobial properties of Four Phyllanthus spp	Speaker	21 st Oct 2019	21 st Oct 2019	Guangxi University	International

	National Dengue Conference	Obesity in Dengue Dengue Diagnostics	Speaker Speaker	7 th July 2019	8 th July 2019	Ministry of Health & TIDREC	National
	4 th Asian Dengue Summit	Electrical impedance o	Poster	14 th July 2019	15 th July 2019	Asian Dengue Consortium	International
	ECCMID 2019	Tropism, Barrier Function & Permeability of Zika virus on microvascular endothelial cells	Oral paper	13 th April 2019	16 th April 2019	Netherland European Clinical Microbiology Society	International
	International Congress of Material Science	Dengue Diagnostics: Research to Application	Oral paper	24 th June 2019	28 th June 2019	Singapore Material Science Society	International
	3 rd Asian Dengue Summit	Workshop on Immunology of Dengue	Workshop organiser	July 2018	July 2018	Asian Dengue Consortium	International
	International Conference of Biomedical Sciences	Dengue Immunological Profiles	plenary	22 nd Mar2 018	23 rd Mar 2018	Thailand	International
	European Clinical Microbiology Congress 2018	Identifying immune related proteins in predicting disease severity in dengue	poster	21 st April 2018	24 th April 2018	Spain European Clinical Microbiology Society	International
1.	33 rd Symposium of Malaysian Society for Microbiology	Zika virus in contract to Dengue virus	Oral	14Dec- 16	17Dec- 16	Malaysian Society for Microbiology	International
2.	International Conference on Dengue/DHF	Dengue: To Stem the Tide	Invited Speaker	24Feb- 16	26Feb- 16	Epidemiology Unit of Ministry of Health, Sri Lanka	International
3.	Selangor Research Day	Immuno Pathogenesis of Dengue Virus Infection	Invited Speaker	29Oct- 15	29Oct- 15	Tengku Ampuan Rahimah Hospital, Klang	National

4.	Research Assistant Training	Research Assistant Training	Invited Speaker	28-Jul-15	29-Jul-15	Research Management Center (RMC)	University
5.	Immunology Symposium	Dengue Infection : Cytokine Profiles and Modulation of the Microvascular Endothelium	Invited Speaker	16Oct-14	17Oct-14	Department of Pathology, Faculty of Medicine and Health Sciences, UPM	University
6.	Clinical and Cellular Immunology Conference	Endothelial Dysfunction in Dengue Haemorrhagic Fever	Invited Speaker	29Sep-14	01Oct-14	OMICS Group Conferences	International
7.	3rd International Conference and Exhibition	Endothelial Dysfunction in Dengue Haemorrhagic fever	Oral	29Sep-14	01Oct-14	Clinical and Cellular Immunology	International
8.	25th National Scientific Conference	Medical Laboratory Sciences	Invited Speaker	23Sep-14	25Sep-14	Malaysian Institute of Medical Laboratory Sciences	National
9.	25th National Scientific Conference	Clinical and Immunological Markers of Dengue Progression	Invited Speaker	23Sep-14	25Dec-14	University Malaya	National
10.	6th ASEAN Congress of Tropical Medicine and Parasitology	Global Challenges in Tropical Diseases : Bridging Gaps and Building Partnership	Invited Speaker	05Mar-14	07Mar-14	Malaysian Society of Parasitology and Tropical Medicine	National
11.	2nd National Scientific Symposium	-	Invited Speaker	05-Jul-13	07-Jul-13		National
12.	LRGS Dengue Colloquium & Workshop 2013	LRGS Dengue Colloquium	Invited Speaker	11Jun-13	12Jun-13	TIDREC University Malaya	University

13.	ASM Spring Meeting 2013 & Immunology 2013	Dengue in Malaysia	Invited Speaker	08May-13	08May-13	ohn A. Burns School of Medicine, University of Hawaii	International
14.	Immunology Update Seminar 2012	Immunogenetic	Invited Speaker	03Nov-12	04Nov-12	Allergy and Immunology Research Centre (AIRC), IMR	National
15.	Immunology Update 2012 Seminar	Immunogenetic	Invited Speaker	03Nov-12	04Nov-12	Pusat Penyelidikan	National

						Alergi dan Imunologi, IMR	
16.	19th Scientific Meeting of Malaysian Society for Molecular Biology and Biotechnology	Immunology	Invited Speaker	31Oct-12	01Nov-12	University Malaya	National
17.	Upskill Programme Series	How to defend your thesis workshop	Invited Speaker	29Oct-12	29Oct-12	Institute of Graduate Studies (UM)	University
18.	Asia-Pacific Congress Of Medical Virology	Inhibition of Dengue Virus entry into Host Cells Using Small Interference RNAs And Synthetic Peptides	Oral	06Jun-12	08Jun-12	Asia-Pacific Society Of Medical Virology	International
19.	Asia Pacific Congress of Medical Virology	Dengue specific HLA-restricted T-Cell Response and cytokine profiling of Dengue Patient in Malaysia	Oral	06Jun-12	08Jun-12	APCMV, Australia	International

20.	Upskills Programme	THESIS DEFENSE	Invited Speaker	02Mar-12	02Mar-12	Faculty Medicine, University Malaya	University
21.	1st National Postgraduate Conference in Molecular Medicine 2011	Discovery, Development & Evaluation of Diagnostic Test for Dengue	Invited Speaker	13Apr-11	13Apr-11	INFORMM Health Campus, University Science Malaysia	National
22.	Recent Advances in Dengue	New Diagnostic Tests in Dengue and Dengue Vaccines	Invited Speaker	28Mar-11	28Mar-11	Department of General Medicine and Department of Haematology, Ampang Hospital.	Others
23.	1stAMDI-International Biohealth Science Conference (IBSC) - 2010	Antimicrobial resistance pattern of clinical isolate Pseudomonas aeruginosa In UMMC	Oral	29Dec-10	01Dec-10	Infectious Disease Cluster (IDC) of Advanced Medical and Dental Institute (AMDI), University Science Malaysia.	International
24.	International Symposium on Recent Advances in Ecology and Management of	International Symposium on Recent Advances in Ecology and Management of	Pleanary/Keynote Speaker	01Dec-10	03Dec-10	Defence Institute for Research India	International

	Vector and Vector Borne Diseases	Vector and Vector Borne Diseases					
25.	The 17th International Student Congress of Medical Sciences (ISCOMS) meeting in Groningen, The Netherlands	Induction of Apoptosis without cell cycle arrest in A549 and MCF-7 cell lines treated with Phyllanthus spp. extracts	Oral	08Jun-10	11Jun-10	University of Groningen, The Netherlands	International

26.	The 17th International Student Congress of Medical Sciences (ISCOMS) meeting in Groningen, The Netherlands	RNA interference inhibits dengue virus entry and multiplication into monocytes by silencing CD-14 associated molecule	Oral	08Jun-10	11Jun-10	University of Groningen, The Netherlands	International
27.	Colloquium On Updates on Dengue and Arbovirus Research in Malaysia meeting in Malaysia.	Immunological Determinants and Associations with Dengue Infections	Oral	12Apr-10	13Apr-10	The WHO Arbovirus Reference and Research (DF/DHF/DSS) & TIDREC, Faculty of Medicine, University of Malaya	International
28.	The 14th Biological Sciences Graduate Congress 2009	Detection of Quorum Sensing Signal Molecules among Biofilm forming clinical isolates of Acinetobacter spp	Oral	10Dec-09	12Dec-09	Biological Science Graduate Programs Faculty of Science, Chulalongkorn, Department of Biological Science, DBS-NUS & IBS University Malaya University.	International
29.	The 16th International Student Congress of Medical Sciences (ISCOMS) meeting in Groningen, The Netherlands	The cytotoxic and apoptotic effects of Bio-X, a palm product, on melanoma and human skin cells	Oral	02Jun-09	05Jun-09	University of Groningen	International
30.	8th Asia Pacific Congress of Medical Virology (APCMV) meeting in Hong Kong	Putative Leakage Mechanisms of Endothelial Cells among Dengue Haemorrhagic Fever Patients	Oral	25Feb-09	28Feb-09	Asia Pacific Congress of Medical Virology	International

31.	The second international Conference on Dengue and Dengue Haemorrhagic Fever	Dengue : Current Laboratory diagnostics	Invited Speaker	15Oct-08	17Oct-08	Bureau of Vector Borne Disease CDC Thailand	International
32.	Australian Biosecurity Cooperative Research Centre for Emerging Infectious Diseases : National Workshop	Chikungunya : Global Movement	Invited Speaker	23Jun-08	26Jun-08	Australian Biosecurity Commission	International
33.	13th International Conference of Infectious Diseases	Antimicrobial resistance and serotyping of Streptococcus pneumoniae isolated from patients in University Malaya Medical Centre Malaysia	Oral	13Jun-08	16Jun-08	International Society for Infectious Diseases	International
34.	The 15th International Student Congress of Medical Sciences (ISCOMS) meeting in Groningen, The Netherlands.	Cross-reactive T Cell Responses to NonStructural Regions of Dengue Viral Antigens and the Cytokine Molecules in Dengue Fever and Dengue Haemorrhagic Fever Patients in Malaysia	Pleenary/Keynote Speaker	03Jun-08	06Jun-08	University of Groningen, The Netherlands	International
35.	8th Congress of the International Society of Tropical Pediatrics	Debgue Diagnostics : "State of the Art and Status of Rapid Diagnostics"	Invited Speaker	11Apr-08	13Apr-08	International Society for Tropical Pediatrics	International
37.	3rd Asian Dengue Prevention Board Meeting,	Nucleic acid based tests for dengue	Invited Speaker	01Dec-07	02Dec-07	Sri Lanka	International

38.	3rd PDVI Dengue Research Network Meeting, 22-24th Aug 2007	Cross-reactive T cell Epitopes to dengue virus	Invited Speaker	22Aug-07	24Aug-07	Pediatric Dengue Vaccine Institute	International
39.	2nd Asian Dengue Prevention Board Meeting, 21-23rd Jun 2007	Early diagnosis of dengue	Invited Speaker	21Jun-07	23Jun-07		International

40.	Asian Dengue Prevention Board	Laboratory Diagnosis of dengue	Invited Speaker	21Jun-07	22Jun-07		International
41.	7th Asia Pacific Congress of Medical Virology	Early Diagnosis of dengue fever - a diagnostic strategy	Invited Speaker	14Nov-06	17Nov-06	India	International
42.	7th Asia Pacific Congress of Medical Virology 13-15th Nov 2006 at New Delhi India	Early detection of dengue	Invited Speaker	13Nov-06	15Nov-06	India	International
43.	9th NIH Scientific seminar	Dengue Fever	Invited Speaker	20Sep-06	20Sep-06	NIH	National
44.	9th NIH Scientific Meeting, 18-20th Sept 2006	Dengue Fever	Invited Speaker	18Sep-06	20Sep-06	NIH	International
45.	5th Australian Society for Immunology Meeting,	Putative Viral and Human factors involved in dengue viral infections.	Invited Speaker	02Dec-05	08Dec-05	Australia	International
47.	International Conference of Health Sciences,	Dengue in Malaysia	Invited Speaker	06May-05	08May-05	Hawaii	International

48.	First Asian Regional Dengue Research Network Meeting,	Rapid Detection and Quantification of Dengue by Real-Time RT-PCR	Invited Speaker	18Oct-04	20Oct-04	Thailand	International
49.	First International Congress on Dengue Fever and Yellow Fever,	Rapid Detection and Strain identification of Dengue Virus (serotypes 1 to 4) by RT-PCR	Invited Speaker	01-Jul-04	03-Jul-04	Thailand	International
50.	PIPOC : International Palm Oil Congress, Kuala Lumpur 2	Tumor regressive properties of Palm Juice	Invited Speaker	20Aug-03	22Aug-03	Malaysia	International
51.	PORIM International Palm Oil Congress,	Effect of Palm Oil in the regression of BALB/c epithelial tumours	Invited Speaker	01Feb-99	06Feb-99	Malaysia	National
52.	13th Sesqui Meeting of the American Society for Rickettsiology	Polymerase Chain Reaction and Restriction Length Polymorphism analysis of Malaysian isolates of	Invited Speaker	21Oct-97	24Oct-97	Atlanta USA	International
		Orientia tsutsugamushi					
53.	Kursus Asas Immunologi	Complement	Invited Speaker	29Aug-97	30Aug-97	Kuala Lumpur	National
54.	WHO Meeting on Dengue and DHF/DSS in India,	Laboratory Diagnosis of Dengue Fever and DHF	Invited Speaker	07Feb-94	08Feb-94	WHO	International
55.	Bengkel Peningkatan Keselamatan Malaysia,	Aspek-Aspek Keselamatan Berkaitan Dengan Penggunaan BahanBahan Mikrobiologi.	Invited Speaker	11Jan-94	13Jan-94	University Malaya	National

56.	WHO Course on Immunology, Vaccinology and Biotechnology as Applied to Infectious Diseases,	Dengue in Malaysia.	Invited Speaker	09Sep-92	27Oct-92	WHO	International
57.	Seminar Program Bioteknologi Kebangsaan KeIII,	Detection of specific IgM to Japanese Encephalitis virus	Invited Speaker	27Oct-91	29Oct-91	Malaysia	National
58.	First National Biotechnology Conference	Development and Applications of Monoclonal Antibodies.	Invited Speaker	01Oct-89	03Oct-89		National
59.	21st. Annual, General and Scientific Meeting of the Malaysian Society of Parasitology and Tropical Medicine,	Factors influencing cell-mediated immune responses to experimental dengue virus infection	Invited Speaker	18Jan-85	20Jan-85	Malaysia	National
60.	International Conference on Dengue/Dengue Haemorrhagic Fever	Parameters influencing the Tcell response to experimental dengue virus infection	Oral	01Sep-83	03Sep-83	Malaysia	International
61.	25th. SeamoTropmed Regional Seminar on Immunology of Tropical Parasitic Infections in Asia and the Pacific region	Immunosuppression in experimental dengue virus infection	Oral	19Oct-82	21Oct-82	Penang Malaysia	International

SECTION 12 : EVALUATIONS ACTIVITIES

No	Title of Book/Thesis/Project/(Year)	Activity
1.	Article : Antigenic epitope of phospholipase A2 : possibilities of drug development in Journal of cell and animal Biology JCAB-08-04 2008 ,	Article In Journal

2.	Book : Imunologi Asas ,	Book
3.	Article : Lung Abscess secondary to Non-Typhoidal Salmonellosis in Singapore Medical Journal SMJ-2008-10 2008 ,	Article In Journal
4.	Thesis : Inflammation and viral localization in EV71 encephalomyelitis ,	Thesis
5.	MSc thesis : The effect of Palm Tocotrienols on apoptosis and cell cycle arrest of murine liver cells (BNLCL.2) and Liver cancer cells (BNLIMEA.7R) in vitro ,	External Examiner
6.	MSc thesis : Cytotoxicity, apoptosis and gene expression analysis of Gracilaria Changii extract on breast cancer line ,	Article In Journal
7.	Article : HPV associated apoptosis in cervical cancer - Asia Pacific Journal of Molecular Biology and Biotechnology 2008 ,	Article In Journal
8.	Article : Production and characterization of monoclonal antibody specific to recombinant dengue multi-epitope protein (r-DMEP) VIM2007-0052 2008 ,	Article In Journal
9.	Exhaustive Computational identification of pathogen sequences far-distant from Background genomes and experimental verification of human-blind PCR primers : Journal of Biotech JBIOTEC-D-07-00545 2008 ,	Article In Journal
10.	Pre-analytical variables affecting dengue virus quantitative real-time PCR assays : Clinical Chemistry ,	Article In Journal
11.	Serological evidence of Leptospiral infection in Nepal : Asia Pacific Journal of Public Health ,	Article In Journal
12.	Climatic changes and their association with vector borne diseases : Asia Pacific Journal of Public Health ,	Article In Journal
13.	Inadvertant expression of Den-2 virus NS3-EGFP fusion protein in E. coli using pEGFP-N1 Mammalian Expression vector : JUMMEC ,	Article In Journal
14.	M Biotech thesis : Molecular Characterization of Salmonella ,	Thesis
15.	M Biotech thesis : Epitope mapping of Sta 58 OMP of R Tsutsugamushi ,	Thesis

16.	PhD thesis : Molecular characterization of Salmonella ,	Thesis
17.	PhD thesis : Molecular investigation of common mitochondrial deletion in tumour cells as compared to adjacent non-tumoral cells in gastric cancer ,	External Examiner
18.	MSc thesis : Invitro study of immunologic memory for Hepatitis B surface antigen induced by vaccine ,	External Examiner

19.	Evaluation of Leptospira dipsticks : INDX Laboratories USA ,	Project
20.	Evaluation of PanBio ELISAs for Leptospira and Typhoid Fever : Pan Bio Australia ,	Project
21.	Evaluation of Typhi-Dot and Typhim Kits for typhoid Fever : MBDR Malaysia ,	Project
22.	Influences of Hepatitis B virus genotypes, core promoter mutations and HBeAg/anti-HBe titres on HBV DNA : Malaysian Journal of Biochemistry and Molecular Biology ,	Article In Journal
23.	Article : A Real Time PCR procedure for dengue virus detection and quantitation in clinical and laboratory samples in Journal of Virological Methods VIRMET D-0800312 2008 ,	Article In Journal
24.	Summative Examinations of Perdana University - Royal College of Surgeons in Ireland (PU-RCSI). , (2015-2015)	Examination
25.	Targeting microcirculatory dysfunction in dengue infection , (2015-2015)	Nmrc Application
26.	MMedSc dissertation: Morphological, Molecular, And Genomic Characterization Of Wood-Decaying Fungi Daldinia Eschscholtzii Isolated From Human Specimens , (2015-2015)	Thesis
27.	Molecular Characterization of Antibiotic Resistance Determinants, Plasmids and Integrons in Malaysian Isolates of Multidrug Resistant Klebsiella Pneumoniae , (2015-2015)	Thesis

28.	Phd thesis: Chemical Engineering Of Cell-Penetrating Antibodies For Targeting HIV-1 P24 Capsid Protein , (2015-2015)	Thesis
29.	Penukaran Taraf Pencalonan Dari Program Ijazah Sarjana Sains Perubatan kepada Program Ijazah Doktor Falsafah , (2015-2015)	Conversion From Master To Phd
30.	Assesing The Risk Sylvatic Dengue Viruses Pose to Human Population Through Seroepidemiologic Examination of Environments with Varied Levels of Urbanization , (2014)	Thesis
31.	Assesing The Risk Sylvatic Dengue viruses Pose to Human Populations Through Seroepidemiologic Examination of Environments with Varied Levels of Urbanization , (2014-2014)	Thesis
32.	Viva Voce for Kalavani Batumalaie (Fakulti Perubatan) , (2014-2014)	Thesis
33.	Molecular Characterization of Antibiotic Resistance Determinants,Plasmids and Integrons in Malaysian Isolates of Multidrug Resistant Klebsiella Pneumoniae , (2014)	Thesis
34.	Oral Rehydration Versus Intravenous Fluid Replacement for the Management of Dengue with Warning Signs (OVID) , (2014-2015)	Nmrc Application
35.	Molecular Detection of Rickettsia and Bartonella , (2012-2012)	Thesis

36.	Role of natural products in the modulation of the immune response to Sepsis , (2012-2012)	Thesis
37.	PhD Examination of Babu Ramanathan- Swinburne University of Technology , (2012-2012)	Thesis
38.	Being a Judge in Final PSC Young Laureates Award 2012 Competition , (2012-2012)	
39.	Molecular Characterization of Dengue viruses from India , (2012-2012)	Thesis

40.	Immunological studies of EV71 vaccine in a mouse model , (2012-2012)	Thesis
41.	Journal of Agricultural and Food Chemistry (jf-2011-007562): Site-directed mutagenesis, isolation and purification of <i>Listeria monocytogenes</i> listeriolysin O and its immunogenicity , (2011)	Article In Journal
42.	ISRN Immunology , (2011)	Article In Journal
43.	World Journal of Virology (WJV) , (2011)	Article In Journal
44.	PLoS Neglected Tropical Diseases (PNTD-D-11-00422): Participation of Mast Cell-Derived VEGF and Proteases in Dengue Shock Syndrome , (2011)	Article In Journal
45.	Journal of Medicine and Medical Sciences (JMMS-11-303): Colon cancer in a localized population, base study , (2011)	Article In Journal
46.	Virology Journal: Development of a SYBR Green I based RT-PCR assay for Yellow Fever virus: Application in assessment of YFV infection in <i>Aedes aegypti</i> , (2011)	Article In Journal
47.	African Journal of Pharmacy and Pharmacology (AJPP-11-327): In-vitro antimicrobial activity of crude acetone extract of the stem bark of <i>Combretum molle</i> against selected bacterial pathogens , (2011)	Article In Journal
48.	International Research Journal of Microbiology (IRJM-11-056): A study of antibacterial activity of plant extracts on bacterial pathogens isolated from Eye infections (conjunctivitis) , (2011)	Article In Journal
49.	Journal of Virological Methods (VIRMET-D-11-00250): Viral protein-specificity of the antibody response in sera of dengue 3 infected patients , (2011)	Article In Journal
50.	Integrative Cancer Therapies (ICT-2011-039): Furano-1,2-naphthoquinone inhibits Src and PI3K/Akt signaling pathways in Ca9-22 human oral squamous carcinoma cells , (2011)	Article In Journal
51.	Journal of Virological Methods (VIRMET-D-10-00547R1): Evaluation of a RT-qPCR assay for detecting dengue virus RNA and determining viral load levels in serum samples collected sequentially , (2011)	Article In Journal

52.	Malaysian Journal of Medical Science (04-2011-059-OA): Barriers to Documentation in the Management of Dengue in Children: A Qualitative study , (2011)	Article In Journal
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53.	PLoS Neglected Tropical Disease (PNTD-D-10-00138R2): A new strategy for dengue diagnosis , (2011)	Article In Journal
54.	Chinese Medicine: Anticancer activity of plants of Phyllanthus species , (2011)	Article In Journal
55.	PLoS ONE (PONE-D-11-05322): Anticancer activities of sic selected natural compounds occurring in some Cameroonian medicinal plants , (2011)	Article In Journal
56.	International Research Journal of Biotechnology (IRJOB-11-022): Molecular detection and subtyping of human influenza A viruses based on multiplex RT-PCR assay , (2011)	Article In Journal
57.	Journal of Public Health and Epidemiology (JPHE-11-061): The Burden of Malaria and Its Control Methods Among Pregnant Women in a Semi-urban Community of Northern Nigeria: An Appraisal of Nine Years of Malaria Control in an African Community , (2011)	Article In Journal
58.	Asia-Pacific Journal of Public Health (APJPH-11-Mar-125): Dengue in Malaysia: A Situational Analysis , (2011)	Article In Journal
59.	Journal of Medicinal Plants Research (JMPR-11-351): Geraniin Induced SGC7901 Cell Apoptosis Associated Mitochondrial Transmembrane Potential and Intracellular Calcium Concentration , (2011)	Article In Journal
60.	International Journal for Biotechnology and Molecular Biology Research (IJBMBR-11-002): HLA-DQA1 & HLA-DQB1 Genotyping in H.pylori-seropositive Individuals , (2011)	Article In Journal
61.	African Journal of Microbiology Research (AJMR-10-782): Antimicrobial Susceptibility Pattern of Shiga Toxin-producing Escherichia coli Strains , (2011)	Article In Journal
62.	Journal of Public Health and Epidemiology (JPHE-11-033): Human Influenza Virus Present in the Respiratory Tract of Healthy Individual , (2011)	Article In Journal

63.	Journal of Medical Microbiology (JMM/2011/030080): Staphylococcus aureus nasal carriage screening in a hospital in Kelantan, Malaysia , (2011)	Article In Journal
64.	Journal of Public Health and Epidemiology: Outbreak of Dengue from Bihar, India-establishing new foci , (2011)	Article In Journal
65.	Journal of Virological Methods (VIRMET-D-10-00547): Detection and quantification of dengue virus in serum kinetic samples by RT-qPCR assay , (2010)	Article In Journal
66.	PLoS ONE : 10-PONE-RA-20818 : Allelopathic effects of water hyacinth (Eichhornia crassipes , (2010)	Article In Journal
67.	University Putra malaysia : Tesis Chai Pei Shin yang bertajuk In Vitro Immunomodulatory Effects of Fruits and Herbs on Peripheral Blood Mononuclear Cells , (2010)	Thesis
68.	Univerity Malaya The Cytotoxic and Apoptotic Effects of 1 S-I Acetoxychavicol Acetate (ACA) and its natural analogs from Alpinia Conchigera (Zingiberaceae), and its Relationship with the Nuclear Factor-KB Pathway in Cancer Cells by Lionel In Lian Aun. PhD thesis , (2010)	Thesis

69.	PEMERIKSAAN TESIS MASTER SAINS University Putra Malaysia: MEHDI RASOLI PIROZYAN (GS176617) TAJUK TESIS : ENHANCEMENT OF ANTIBODY RESPONSE IN CHICKENS AFTER VACCINATION WITH AVIAN INFLUENZA VIRUS DNA VACCINE LINKED WITH HSP70 GENE OF MYCOBACTERIUM TUBERCULOSIS , (2010)	Thesis
70.	BMC Infectious Diseases: Dengue-2 Structural Proteins Associate with Human Proteins to Produce a Coagulation and Innate Immune Response Biased Interactome , (2010)	Article In Journal
71.	Review article for Vaccine JVAC-D-10-00690 : Enterovirus 71 Virus-Like particle Vaccine: Improved production Conditions for Enhanced Yield Vaccine , (2010)	Article In Journal
72.	Tropical Biomedicine MS No 107/10 : Simian role in the natural maintenance of dengue viruses : a new epidemiological dimension to dengue transmission dynamics with special reference to Indian Perspectives , (2010)	Article In Journal
73.	Journal of Infectious Diseases and Immunity : JIDI-10-009: Virological Diagnosis of Dengue Fever in Jeddah, Saudi Arabia , (2010)	Article In Journal

74.	Journal of Medicine and Medical Sciences JMMS-10-250 :Virological Diagnosis of Dengue Fever in Jeddah, Saudi Arabia , (2010)	Article In Journal
75.	Singapore Medical Journal SMJ-2010-263: High resolution melting analysis for detection of the APC codon 1309 mutation in colorectal hyperplastic polys , (2010)	Article In Journal
76.	International Journal of Infectious Diseases: IJID-D-10-00533 : Epidemiological studies on dengue 3 in Playa Municipality, Havana, Cuba, 2001-2002 , (2010)	Article In Journal
77.	PLoS ONE PONE-10-00326 : Heterogenous Response to a Quorum Sensing Signal in the Luminescence of Individual Vibrio fischeri , (2010)	Article In Journal
78.	BMC Infectious Diseases: HLA-A allele as a biomarker of progression to dengue hemorrhagic fever in Brazilian patients: a case-control study , (2010)	Article In Journal
79.	Journal of Computational Biology and Bioinformatics Research (JCBBR-10-028): In silio identification of Potential Cytotoxic T Cell Epitopes Against Dengue Virus Type 1 Polyprotein , (2010)	Article In Journal
80.	Virus Research (VIRUS-D-10-00325): Fatal Persistence of West Nile Virus subtype Kunjin in the brains of flavivirus resistant mice , (2010)	Article In Journal
81.	Biochemical Engineering Journal (BEJ-D-10-00378): Simple electrochemical biosensor for dengue diagnostic test using graphite electrode , (2010)	Article In Journal
82.	Article : Characterization of macrolide resistance determinants of Streptococcus pneumoniae in Shanghai : Journal of Medical Microbiology 2008 , (2008)	Article
83.	Article : Hepatocellular carcinoma among patients diagnosed with and without hepatitis B surface antigenemia in a Nigerian Tertiary Hospital AJMR-07-067 2008 , (2008)	Article In Journal
84.	Article : SEROLOGICAL EVIDENCE OF INFECTION WITH RICKETTSIA TYPHI AMONG INMATES IN JOS PRISON, NIGERIA in Journal of infection in developing countries MSJIDC 13/08 2008 , (2008)	Article In Journal
85.	Article : Expression of Major OMP to O tsutsugamushi : Infection & Immunity 2003 , (2004)	Article In Journal

86.	Manuscript No : IAI 1854-02 (2003) : Infection and Immunity , (2003)	Article In Journal
87.	Articles in Journal of Medical Virology : JMVir/1998/4161; JMVir/1998/3978; JMVir/1999/4355; JMVir/1999/4551; JMVir/2000/4598 , (1998)	Article In Journal

SECTION 13 : PROFESSIONAL AFFILIATION/MEMBERSHIP

No	Organisation	Role	Start Date	Level
1.	UPM Office Of The Registrar (Associate Professor)	Evaluate Applications For Appointments And Promotions	26/12/2012	National
2.	World Journal Of Virology	Members & Editor Journal Malawati	20/07/2012	International
3.	American Society For Microbiology	Member	15/01/1996	International
4.	Plos One	Members & Editor Journal Malawati	14/07/2012	International
5.	Journal Of Health And Translational Medicine (Jummecc)	Editorial Board Member	11/12/2013	National
6.	Pewasit Jurnal Sains Malaysiana	Examiner	09/01/2013	National
7.	American Society Of Immunology	Member	07/09/1994	International
8.	Journal Of Indegenous Research	Associate Member	06/12/2005	International

9.	Who Collaborating Centre For Arbovirus Reference And Research (Df/Dhf)	Exco Commitee Member	05/01/1982	International
10.	Malaysian Society Of Infectious Disease And Chemotherapy	Life Membership	04/01/2000	National
11.	Journal Of Infection In Developing Countries	Board Member	02/08/2006	International
12.	Open Virology Journal	Board Member	02/01/2007	International
13.	Catholic Students Society Of University Malaya	Advisor	01/07/1998	National
14.	African Journal Of Microbiology Research	Consultant	01/05/2007	International
15.	24Th World Congress Of Pathology & Laboratory Medicine	Scientific Committee	01/01/2005	National
16.	Ministry Of Science & Technology	Technical Chairman For Igs Project	01/01/2005	National
17.	Persatuan Penduduk Seksyen 10 Petaling Jaya	President	01/01/2005	National
18.	Asia Pacific Society For Medical Virology	National Representative (Malaysia)	01/01/2003	International
19.	Who Collaborating Centre For Arbovirus Reference And Research (Df/Dhf)	Director	01/01/2003	International

SECTION 14 : ADMINISTRATIVE DUTIES

No	Role	Level	From	Until
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	Professor Chairperson, UCSI Ethics Committee, UCSI University	University	Oct 2022	current
	Professor, Deputy Dean, Faculty of Medicine & Health Sciences, UCSI University	University	Oct 2020	March 2023
	Head School of Basic Sciences	University	Aug 2019	Oct 2020
	Director School of Basic Sciences	University	April 2018	July 2019
	MQA Documents for Masters in Medical Sciences Mixed Mode	University	Oct 2017	March 2018
1	Coordinator for Course MFEB 3401 (Advanced Medical Virology)	University Malaya	2016-11-01	2017-02-15
2	Student Consultant at UM 111 Consult	University Malaya	2016-05-25	2017-02-15
3	Interviewer for Program Pengajian Peringkat Ijazah Pertama	University Malaya	2016-05-23	2016-06-21
4	Evaluation panel of Sciencefund research grant application	University Malaya	2016-04-12	2016-04-28
5	Auditor of MS ISO 15189	Faculty of Medicine	2016-01-13	2016-01-13
6	Evaluation panel for Fundamental Research Grant Scheme (FRGS)	Faculty of Medicine	2015-01-01	2015-12-31
7	Committee member for PPP and BKP	University Malaya	2013-08-01	2015-12-31
8	Organising Chairman - Basic and Clinical Immunology	International	2013-07-23	2013-07-27
9	Member for Evaluation Board of PPP and BKP	University Malaya	2012-11-26	2012-11-26
10	Committee Member for Promotions	Faculty of Medicine	2012-10-01	2017-02-15
11	Faculty Counsellor	Faculty of Medicine	2012-01-01	2017-02-15

12	Department Phase 2 Coordinator	Faculty of Medicine	2011-01-01	2017-02-15
13	Faculty Representative	Faculty of Medicine	2010-01-04	2017-02-15
14	Committee member for e-learning	Faculty of Medicine	2009-10-01	2011-09-30
15	Committee member of Supervision Board	University Malaya	2009-06-01	2012-05-31
16	Ptk Level 6 Evaluation Board	University Malaya	2009-06-01	2012-05-31
17	Organising Chairman - Workshop on Laboratory Diagnosis of Dengue	International	2008-04-08	2008-04-12
18	Advanced Medical Microbiology Course Coordinator	Faculty of Medicine	2007-12-26	2010-03-30
19	Faculty Representative for Masters Viva	Faculty of Medicine	2007-06-01	2012-12-31
20	Department Phase II MBBS Coordinator	Faculty of Medicine	2006-09-01	2007-05-08
21	Organising Chairman - Workshop on Laboratory Diagnosis of Dengue	International	2005-04-05	2005-04-09
22	Phase 1 Elective Faculty Coordinator	Faculty of Medicine	2004-06-01	2005-06-01
23	Department Coordinator Advanced Diagnostic Virology	Faculty of Medicine	2003-02-04	2005-04-22
24	Head of Diagnostic Virology	Faculty of Medicine	2003-02-04	2005-03-09
25	Pbl Case Coordinator Dept	Faculty of Medicine	2001-01-09	2009-12-03
26	Department Coordinator for Bds Phase II	Faculty of Dentistry	1999-05-04	2004-05-07
27	Member of International Centre	Faculty of Medicine	1982-03-01	2007-06-30

SECTION 15 : TECHNICAL CONTRIBUTIONS

No	Activity	Organisation	Role	From	Until	Level
1.	2nd National Workshop on Laboratory Diagnosis of dengue	Dept of Medical Microbiology	Chairman	2008	2008	International
2.	Penilai Projek IGS-MOSTE	Ministry of Science & Technology	Technical Advisor	2005	2005	National
3.	Workshop towards the development of a research Centre for Malaysian Indegenous population	Faculty of Dentistry University Malaya	Committee Member	2005	2005	University
4.	1st National Workshop on Laboratory Diagnosis of Dengue	Dept of Medical Microbiology and WHO Collaborating Centre	Chairman	2005	2005	National
5.	Viral Diagnostics	UMMC	Consultant	2003	present	International
6.	Kursus Imunologi Asas	Dept of Medical Microbiology Faculty of Medicine UM	Chairman	1998	1998	National
7.	Serological Diagnostics	UMMC	Consultant	1990	2000	International
8.	Dengue Diagnostics	UMMC	Technical Advisor	1989	2007	International

SECTION 16 : AWARDS

Local

No.	Awards	Awarded by	Year
	Toray Science Award	Malaysian Toray Science Foundation	2018
1	Distinguished Researcher Penyelidik Ulung	University Malaya	2016

2	Sijil Penghargaan Persaraan	University	2014
3	Top Research Scientists Malaysia (TRSM)	Akademi Sains Malaysia	2014
4	5 th Exposition on Islamic Innovation 2014 – Gold Medal Innovation of dengue rapid diagnostics via surface plasmon resonance biosensor	University Science Malaysia	2014
5	BIOMALAYSIA 2012 – Bronze medal	BIOMALAYSIA 2012	2012
	DM3, A Novel Designed Antimicrobial Peptides Protects Mice From Lethal Pneumococcal Infection		
6	BIOMALAYSIA 2011 – Bronze medal Novel self-designed drug for treatment of Streptococcus pneumonia infections	BIOMALAYSIA 2011	2011
7	BIOMALAYSIA 2011 – Gold medal RetroMad1 – an oral delivery broad spectrum antiviral with anticancer properties	BIOMALAYSIA 2011	2011
8	ANUGERAH INOVASI NEGARA “KESIHATAN”	AIN/NICE	2009
9	BIOMALAYSIA 2009 – silver medal Development of a simultaneous assay for detection of antigen and antibody in dengue infections	BIOMALAYSIA	2009
10	BIOMALAYSIA 2009 – silver medal On-Step RT-PCR for the detection and quantitation of Chikungunya virus	BIOMALAYSIA	2009
11	Certificate of Achievement of Seed Fund for Precommercialization validation of MyDENKit	Ministry of Science and Technology (MOSTI)	2009
12	Pecipta Award 2009 : Bronze Medal for Real Time PCR for Dengue and Chikungunya	Pecipta Malaysia 2009	2009
13	Pecipta Award 2009 : Silver Medal for Diagnosis of Dengue irrespective of date of Onset of illness	Pecipta Malaysia 2009	2009
14	Certificate of Award : ICMSM Merit Award for Poster ; Medical Microbiology	Malaysian Society for Microbiology	2009
15	BIOMALAYSIA 2008 : Gold Medal for development of BK virus kit	BIOMALAYSIA	2008
16	WOMAN BIOINOVATOR	BIOMALAYSIA	2008
17	Sijil Perkhidmatan Setia 30 tahun	Universiti Malaya	2008
18	MALAYSIAN SCIENCE AND TECHNOLOGY EXPO (1 Silver Medal) : STAPHKIT	Ministry of Science and Technology (MOSTI)	2006
19	IPTA Research and Development Exhibition, 2005 (1 Gold Medal) : DSQuant Dengue Kit	R & D EXPO IPTA 2005	2005
20	IPTA Research and Development Exhibition, 2005 (1 Bronze Medal) : PneumoKit	R & D EXPO IPTA 2005	2005
21	IPTA Research and Development Exhibition, 2005 (1 Bronze Medal) : Viro-Enceph Kit	R & D EXPO IPTA 2005	2005
22	SAINTIS CEMERLANG	Kementerian Pelajaran Tinggi	2005
23	Sijil Perkhidmatan Cemerlang	University	1994, 2003, 2005

24	GOLD MEDAL BY MOSTE for Innovation/Technique developed : DSQuant Kit for the detection, serotyping and quantification of dengue virus	Ministry of Science and Technology (MOSTI)	2004
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International

No.	Awards	Awarded by	Year
1	Best Poster Presentation: First prize winner (Medical Microbiology)	Malaysian Society for Microbiology	2016
2	2013 SIIME Research Grant	John Hopkins Swami Institute for International Medical Education	2013
	Awarded USD149,674 in 2013 for project entitled Endothelial Cell Barrier Responses to African trypanosomes and Dengue Virus Infection		
3	2012 SIIME Research Grant Awarded USD148,000 in 2012 for project entitled Endothelial Cell Barrier Responses to African trypanosomes and Dengue Virus Infection	John Hopkins Swami Institute for International Medical Education	2012
4	WHO project Awarded Principal Investigator US\$10,000 in 2005	WHO/TDR	2010
5	Best paper for 2007 2nd Prize ; awarded S\$3000.00 Yong YK, Thayan R, Chong HT, Tan CT and Devi S (2007). Rapid Detection and Serotyping of Dengue Virus by Multiplex RT-PCR and Real-Time SYBR Green RT-PCR. Singapore Med J. Vol. 48 (7): 662 – 668	Singapore medical Journal	2008
6	Gold Medal for Invention, Exhibition of New Invention, Techniques and Products 2005, Geneva for "Kit de diagnostic pour la detection de serotypes"	Geneva Exhibition of New Invention, Techniques and Products	2005
7	ITEX Medals : 1 Silver Biotechnology Asia 2005 Silver for Development of Molecular Diagnostic assay for the Detection of Major Virus Families implicated in Viral Encephalitis.	ITEX Biotechnology Asia	2005
8	WHO project Awarded Principal Investigator US\$10,000 in 2005	WHO/TDR	2005
9	Outstanding poster award on "Simultaneous species identification and detection of methicillin-resistance in Staphylococci using Multiplex PCR and real Time PCR"	International Symposium on Antimicrobial Agents and Resistance 2003	2003

SECTION 17 : COMMERCIALISATIONS

No	Company Name	Product Name	Commercial Type
1.	GeneFlux Biosciences Sdn Bhd	MyDenKit	Licencing

2.	GeneFlux Biosciences Sdn Bhd	MyCMVkit	Licencing
3.	GeneFlux Biosciences Sdn Bhd	MRSakit	Diagnostics
4.	GeneFlux Biosciences Sdn Bhd	Transplant services	Joint-Venture
5.	Bio Valence Sdn Bhd	Drug development - broad spectrum oral antimicrobials and anticancers	Chief Science Officer