

CURRICULUM VITAE 2020



A. BUTIR-BUTIR PERIBADI (*Personal Details*)

Nama Penuh (Full Name)	Norhayati binti Ramli		Gelaran (Title): Assoc. Prof. Dr
No. MyKad / No. Pasport (Mykad No. / Passport No.) 860511-11-5054	Warganegara (Citizenship) Malaysian	Bangsa (Race) Malay	Jantina (Gender) Female
Jawatan (Designation)	Associate Professor	Tarikh Lahir (Date of Birth)	11/5/1986

Alamat Semasa (Current Address)	Jabatan/Fakulti (Department/Faculty)	E-mel dan URL (E-mail Address and URL)
No. 6, Jalan 7/5J, Seksyen 7, 43650 Bandar Baru Bangi, Selangor.	Department of Bioprocess Technology, Faculty of Biotechnology and Biomolecular Sciences, 43400 UPM Serdang, Selangor.	E-mail: yatiramli@upm.edu.my ; yatiramli98@gmail.com

B. KELAYAKAN AKADEMIK (*Academic Qualification*)

Nama Sijil / Kelayakan (Certificate / Qualification obtained)	Nama Sekolah Institusi (Name of School / Institution)	Tahun (Year obtained)	Bidang pengkhususan (Area of Specialization)
Doctor of Philosophy	Universiti Putra Malaysia	2012	Microbial Biotechnology
Bachelor Degree	Universiti Putra Malaysia	2008	Bachelor of Science (Biotechnology)

C. KEMAHIRAN BAHASA (*Language Proficiency*)

Bahasa / Language	Lemah Poor (1)	Sederhana Moderate (2)	Baik Good (3)	Amat Baik Very good (4)	Cemerlang Excellent (5)
English				/	
Bahasa Melayu					/
Chinese					
Lain-lain (other):					

D. SCIENTIFIC EXPERIENCE AND SPECIALIZATION (<i>Pengalaman Saintifik dan Pengkhususan</i>)				
Organization	Position	Start Date	End Date	Expertise
UPM-Kyutech International Symposium on Applied Engineering and Sciences (SAES2020)	Abstract Reviewer	2020	2020	Biotechnology
Frontiers Microbiology	Reviewer	2020	To date	Biotechnology
Process Integration and Optimization for Sustainability	Reviewer	2020	To date	Biotechnology
Journal of Sustainability Science and Management	Reviewer	2020	To date	Biotechnology
BioMed Research International	Reviewer	2020	To date	Biotechnology
Malaysian Journal of Biochemistry and Molecular Biology (MJBMB)	Reviewer	2020	To date	Biotechnology
Journal of Bioscience and Bioengineering	Reviewer	2019	To date	Biotechnology
Pertanika JST (SAES2019 Special Issue)	Guest Editor	2019	2020	Biotechnology
Environmental Technology	Reviewer	2019	To date	Biotechnology
International Conference on Advances in Civil and Ecological Engineering Research 2019 (ACEER2019), Taiwan	Guest Reviewer (Special Issue)	2019	2019	Biotechnology
Biocatalysis and Agricultural Biotechnology	Reviewer	2019	To date	Biotechnology
Asia Pacific Journal of Molecular Biology and Biotechnology	Reviewer	2019	To date	Biotechnology
Special Issue of IOP Conference Series 2019 in Conjunction with 12th Seminar on Science and Technology (S&T 2018)	Guest Reviewer (Special Issue)	2018	2019	Biotechnology
Symposium of Applied Engineering and Sciences 2018 (SAES2018), Kyushu Institute of Technology, Japan	Poster Judge	2018	2018	Biotechnology
Special Issue of Malaysian Journal of Microbiology (MJM) in Conjunction with ASEAN Microbial Biotechnology Conference 2018 (AMBC 2018).	Guest Reviewer (Special Issue)	2018	2018	Biotechnology
Malaysian Journal of Microbiology	Reviewer	2018	To date	Biotechnology
Pertanika JST	Reviewer	2018	To date	Biotechnology
Journal of Environmental Protection	Reviewer	2018	To date	Biotechnology
Journal of Environmental Studies	Reviewer	2018	To date	Biotechnology
Jurnal Teknologi	Reviewer	2018	To date	Biotechnology
International Conference on Environmental Forensics 2018 (iENFORCE2018)	Guest Reviewer (Special Issue)	2018	2019	Biotechnology
Advances in Agricultural Science	Reviewer	2018	To date	Biotechnology
Bioprocess and Biosystems Engineering	Reviewer	2018	To date	Biotechnology
BioResources	Reviewer	2018	To date	Biotechnology

Special Issue of Malaysian Journal of Microbiology (MJM) in Conjunction with ASEAN Microbial Biotechnology Conference 2018 (AMBC 2018)	Guest Reviewer (Special Issue)	2018	2018	Biotechnology
5th International Symposium on Applied Engineering and Sciences (SAES2017)	Poster Judge	2017	2017	Biotechnology
CLEAN - Soil, Air, Water	Reviewer	2017	To date	Biotechnology
Waste Management	Reviewer	2017	To date	Biotechnology
Waste and Biomass Valorization	Reviewer	2017	To date	Biotechnology
International Conference on Separation Technology (ICoST2017)	Guest Reviewer (Special Issue)	2017	To date	Biotechnology
33rd Symposium of the Malaysian Society of Microbiology 2016 (MSM2016)	Judge for Outstanding Poster Presentation Award	2017	2017	Biotechnology
Preparative Biochemistry and Biotechnology	Reviewer	2016	To date	Biotechnology
Current Organic Chemistry	Reviewer	2016	To date	Biotechnology
33 rd Symposium of the Malaysian Society for the Microbiology 2016	Poster Judge	2016	2016	Biotechnology
Applied Biochemistry and Biotechnology	Reviewer	2015	To date	Biotechnology
Malaysian Journal of Microbiology	Reviewer	2015	To date	Biotechnology
African Journal of Microbiology Research	Reviewer	2014	To date	Biotechnology
Journal of Agricultural Science and Technology	Reviewer	2013	To date	Biotechnology
Journal of Enzyme Engineering	Reviewer	2013	To date	Biotechnology

E. PENGAJARAN (<i>Teaching</i>)	
Subjects	Programmes
Industrial Microbiology (BTC4204/ BTC4205)	Bachelor of Science (Hons.) Biotechnology, Bac. (Hons.) Microbiology, Bac. (Hons.) Cell & Molecular Biology; Bac. (Hons.) Biochemistry
Introduction to Biotechnology (BTC3001)	Bachelor of Science (Hons.) Biotechnology, Bac. (Hons.) Cell & Molecular Biology
Instrumentation in Biotechnology Research (BTC3003)	Bachelor of Science (Hons.) Biotechnology, Bachelor Science of Biotechnology with Honours
Advanced Enzyme Technology (BTC4102)	Bachelor of Science (Hons.) Biotechnology
Food Biotechnology (BTC4103)	Bachelor of Science (Hons.) Biotechnology
Seminar (BTC4991)	Bachelor of Science (Hons.) Biotechnology

Scientific Writing in Biotechnology (BTC3004)	Bachelor Science of Microbiology with Honours
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F. PEKERJAAN (<i>Employment</i>)				
Majikan / Employer	Jawatan / Designation	Jabatan / Department	Tarikh lantikan / Start Date	Tarikh tamat / Date Ended
Universiti Putra Malaysia	Associate Professor	Department of Bioprocess Technology, FBSB, UPM	1 st October 2019	To date
Universiti Putra Malaysia	Senior Lecturer	Department of Bioprocess Technology, FBSB, UPM	2 nd January 2013	30 th September 2019
Universiti Putra Malaysia	Research Assistant	Department of Bioprocess Technology, FBSB, UPM	1 st July 2011	31 st December 2012

G. PERSIDANGAN (<i>Conference</i>)		
Persidangan / Conference	Year	Venue
The Society for Biotechnology, Japan Web Symposium 2020	2020	Virtual symposium
UPM-Kyutech 8 th International Symposium on Applied Engineering and Sciences (SAES2020)	2020	Virtual symposium
UPM-Kyutech 7 th International Symposium on Applied Engineering and Sciences (SAES2019)	2019	Universiti Putra Malaysia
AFOB Malaysia Chapter International Symposium 2019 (AFOBMCIS 2019)	2019	The Everly Hotel, Putrajaya, Malaysia
Asian Symposium on Microbial Ecology 2019 (ASME2019), Tunghai University, Taichung, Taiwan	2019	Tunghai University, Taichung, Taiwan
6 th International Symposium on Applied Engineering and Sciences (SAES2018)	2018	Universiti Putra Malaysia
5 th International Symposium on Applied Engineering and Sciences (SAES2017)	2017	Universiti Putra Malaysia
33 rd Symposium of the Malaysian Society for the Microbiology 2016	2016	Ramada Plaza Melaka, Malaysia
The 68 th Annual Meeting of the Society of Biotechnology Japan	2016	Toyama, Japan
Biotechnology of Biomass Utilization for ASEAN Development	2016	Faculty of Science, Chulalongkorn University, Thailand
Asian Congress on Biotechnology 2015 (ACB2015)	2015	Istana Hotel, Kuala Lumpur, Malaysia
AFOB Regional Symposium 2015 (ARS2015)	2015	Universitas Indonesia, Depok, Indonesia

3 rd International Symposium on Applied Engineering and Sciences (SAES2015)	2015	Universiti Putra Malaysia
UPM - Kyutech MSSC Seminar – International Research Collaboration	2015	Faculty of Biotechnology & Biomolecular Sciences, Universiti Putra Malaysia
UPM-Sejong University Biotechnology Joint Symposium 2015	2015	Faculty of Biotechnology & Biomolecular Sciences, Universiti Putra Malaysia
AFOB Regional Symposium 2014 (ARS2014)	2014	Seri Pacific Hotel, Kuala Lumpur, Malaysia
2 nd International Symposium on Applied Engineering and Sciences (SAES2014)	2014	Kyushu Institute of Technology, Japan
1 st International Symposium on Applied Engineering and Sciences (SAES2013)	2013	Faculty of Engineering, Universiti Putra Malaysia

H. ANUGERAH DAN HADIAH (<i>Honours and Awards</i>)				
Name of awards	Title	Award Authority	Award Type	Year
Academic Awards	DaSilva Award 2020	The Society for Biotechnology, Japan	International	2020
	Bronze Medal in Putra Innocreative Competition in Teaching and Learning (PICTL2019)	Universiti Putra Malaysia	National	2019
	Sijil Perkhidmatan Cemerlang 2019	Universiti Putra Malaysia	University	2019
	Best Poster Award in AFOB Malaysia Chapter International Symposium 2019 (AFOBMCIS2019)	AFOB Malaysia Chapter	National	2019
	Anugerah Perkhidmatan Cemerlang 2018	Universiti Putra Malaysia	University	2018
	Silver Medal for International STEM Olympiad (ISTEMO) 2018, Universiti Putra Malaysia	International STEM Olympiad (ISTEMO)	International	2018
	Recipient for “Joint Supervision Project” travel grant	Kyushu Institute of Technology, Japan	International	2018
	Sijil Perkhidmatan Cemerlang 2017	Universiti Putra Malaysia	University	2017
	Best Poster Award in Symposium on Applied Engineering and Sciences 2017 (SAES2017), Universiti Putra Malaysia.	UPM-Kyutech, Japan	International	2017
	Pyrosequencing Training for Microbial Community Study	Japan International Cooperation Agency (JICA)	International	2015
Training for Project on	Japan International	International	2014	

	Promotion of Green Economy with Palm Oil Industry for Biodiversity Conservation	Cooperation Agency (JICA)		
	Graduate Research Fellowship	Universiti Putra Malaysia	University	2008-2011
	Hadiah Sarjana Terengganu 2010	State of Terengganu Darul Iman	National	2010
	Fellowship for Japan-East Network of Exchange Students and Youths (JENESYS)	Japan Student Services Organization (JASSO)	International	2009
	JPA Scholarship	Public Service Department (JPA) Malaysia	National	2005-2008

I. SENARAI PENERBITAN (*Nama pengarang, tajuk, nama jurnal, jilid, muka surat dan tahun diterbitkan*)
(List of publications – author (s), title, journal, volume, page and year published)

Journal	<ol style="list-style-type: none"> 1) Zolkefli, N., Ramli, N., Mohamad-Zainal, N. S. L., Mustapha, N. A., Yusoff, M. Z. M., Hassan, M. A., & Maeda, T. (2020). <i>Alcaligenaceae</i> and <i>Chromatiaceae</i> as pollution bacterial bioindicators in palm oil mill effluent (POME) final discharge polluted rivers. <i>Ecological Indicators</i>, 111, 106048. 2) Mohamad Sobri, M. F., Abd-Aziz, S., Abu Bakar, F. D., & Ramli, N. (2020). <i>In-silico</i> characterization of glycosyl hydrolase family 1 β-glucosidase from <i>Trichoderma asperellum</i> UPM1. <i>International Journal of Molecular Sciences</i>, 21(11), 4035. 3) Nik-Pa, N. I. M., Sobri, M. F. M., Abd-Aziz, S., Ibrahim, M. F., Kamal Bahrin, E., Mohammed Alitheen, N. B., & Ramli, N. (2020). Combined optimization of codon usage and glycine supplementation enhances the extracellular production of a β-cyclodextrin glycosyltransferase from <i>Bacillus</i> sp. NR5 UPM in <i>Escherichia coli</i>. <i>International Journal of Molecular Sciences</i>, 21(11), 3919. 4) Zolkefli, N., Ramli, N., Mohamad-Zainal, N. S. L., Mustapha, N. A., Yusoff, M. Z. M., Hassan, M. A., & Maeda, T. (2020). A review of current and emerging approaches for water pollution monitoring. <i>Water</i>, 12(12), 3417. 5) Zainudin, M. H., Mustapha, N. A., Maeda, T., Ramli, N., Sakai, K., & Hassan, M. (2020). Biochar enhanced the nitrifying and denitrifying bacterial communities during the composting of poultry manure and rice straw. <i>Waste Management</i>, 106, 240-249. 6) Diana Mohd-Nor, Norhayati Ramli, Siti Suhailah Sharuddin, Mohd Ali Hassan, Nurul Asyifah Mustapha, Hidayah Ariffin, Kenji Sakai, Yukihito Tashiro, Yoshihito Shirai, Toshinari Maeda (2019). Dynamics of microbial populations responsible for biodegradation during the full-scale treatment of palm oil mill effluent. <i>Microbes and Environments</i>, 34(2), 121-128 7) Nik Ida Mardiana Nik-Pa, Suraini Abd-Aziz, Mohamad Faizal Ibrahim, Noorjahan Banu Mohamed Alitheen, Norhayati Ramli (2019). Improved extracellular secretion of β-cyclodextrin glycosyltransferase from <i>Escherichia coli</i> by glycine supplementation without apparent cell lysis. <i>Asia-Pacific Journal of Molecular Biology and Biotechnology</i>, 27(2), 93-102 8) Iffah Nabilah Mohd-Ariff, Ezyana Kamal Bahrin, Norhayati Ramli & Suraini Abd-Aziz (2019). Direct use of spent mushroom substrate from <i>Pleurotus pulmonarius</i> as a readily delignified feedstock for cellulase production. <i>Waste and Biomass Valorization</i>, 10(4), 839-850
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- 9) Mohamad, N., Ramli, N., Abd-Aziz, S., Ibrahim, M.F. (2019). Comparison of hydro-distillation, hydro-distillation with enzyme-assisted and supercritical fluid for the extraction of essential oil from pineapple peels. *3 Biotech*, 9(6), Article number 234
- 10) Hisham, N.H.M.B., Ibrahim, M.F., Ramli, N., Abd-Aziz, S. (2019). Production of biosurfactant produced from used cooking oil by *Bacillus* sp. HIP3 for heavy metals removal. *Molecules*, 24;2617.
- 11) Samsudin, M.H., Hassan, M.A., Idris, J., Ramli, N., Yusoff, M.Z.M., Ibrahim, I., Othman, M.R., Ali, A.A.M., Shirai, Y. (2019). A one-step self-sustained low temperature carbonization of coconut shell biomass produced a high specific surface area biochar-derived nano-adsorbent. *Waste Management & Research*, 37(5); 551-555
- 12) Enis Natasha Noor Arbaain, Ezyana Kamal Bahrin, Nurshakinah Mohd Noor, Mohamad Faizal Ibrahim, Norhayati Ramli, Suraini Abd Aziz (2019). Chemical-free pretreatment of unwashed oil palm empty fruit bunch by using locally isolated fungus (*Schizophyllum commune* ENN1) for delignification. *Food and Bioproducts Processing*, 118: 207-216.
- 13) Diana Mohd-Nor, Norhayati Ramli, Siti Suhailah Sharuddin, Mohd Ali Hassan, Nurul Asyifah Mustapha, Afzufira Amran, Kenji Sakai, Yoshihito Shirai, Toshinari Maeda (2018). *Alcaligenaceae* and *Chromatiaceae* as reliable bioindicators present in palm oil mill effluent final discharge treated by different biotreatment processes. *Ecological Indicators*, 95, 468-473.
- 14) Siti Suhailah Sharuddin, Norhayati Ramli, Diana Mohd-Nor, Mohd Ali Hassan, Toshinari Maeda, Yoshihito Shirai, Kenji Sakai, Yukihito Tashiro (2018). Shift of low to high nucleic acid bacteria as a potential bioindicator for the screening of anthropogenic effects in a receiving river due to palm oil mill effluent final discharge. *Ecological Indicators*, 85, 79-84.
- 15) Nurul Asyifah Mustapha, Anyi Hu, Chang-Ping Yu, Siti Suhailah Sharuddin, Norhayati Ramli, Yoshihito Shirai, Toshinari Maeda (2018). Seeking key microorganisms for enhancing methane production in anaerobic digestion of waste sewage sludge. *Applied Microbiology and Biotechnology*, 102: 5323–5334.
- 16) Siti Suhailah Sharuddin, Norhayati Ramli, Mohd Ali Hassan, Nurul Asyifah Mustapha, Afzufira Amran, Diana Mohd Nor, Kenji Sakai, Yukihito Tashiro, Yoshihito Shirai & Toshinari Maeda (2017). Bacterial community shift revealed *Chromatiaceae* and *Alcaligenaceae* as potential bioindicators in the receiving river due to palm oil mill effluent final discharge. *Ecological Indicators*, 82, 526-529.
- 17) Aisyah Zulkarnain, Ezyana Kamal Bahrin, Norhayati Ramli, Lai Yee Phang & Suraini Abd-Aziz (2018). Alkaline hydrolysate of oil palm empty fruit bunch as potential substrate for biovanillin production via two-step bioconversion. *Waste and Biomass Valorization*, 9, 13-23.
- 18) Mohd Huzairi Mohd Zainudin, Norhayati Ramli, Mohd Ali Hassan, Yoshihito Shirai, Kosuke Tashiro, Kenji Sakai, and Yukihito Tashiro. (2017). Bacterial community shift for monitoring the co-composting of oil palm empty fruit bunch and palm oil mill effluent anaerobic sludge. *Journal of Industrial Microbiology & Biotechnology*, 44:869-877.
- 19) Nurul Asyifah Mustapha, Siti Suhailah Sharuddin, Mohd Huzairi Mohd Zainudin, Norhayati Ramli, Yoshihito Shirai, Toshinari Maeda (2017). Inhibition of methane production by the palm oil industrial waste phospholine gum in a mimic enteric fermentation. *Journal of Cleaner Production*, 165, 621-629.
- 20) Clament Fui Seung Chin, Yoshihide Furuya, Mohd. Huzairi Mohd. Zainudin, Norhayati Ramli, Mohd Ali Hassan, Yukihito Tashiro & Kenji Sakai (2017). Novel multifunctional plant growth-promoting bacteria in co-compost of palm oil

industry waste. *Journal of Bioscience and Bioengineering*, 124 (5), 506-513.

21) Mohamad Faizal Ibrahim, Norhayati Ramli, Ezyana Kamal Bahrin & Suraini Abd-Aziz (2017). Cellulosic biobutanol by Clostridia: Challenges and improvements. *Renewable and Sustainable Energy Reviews*, 79, 1241-1254.

22) Chiu-Shyan Soo, Wai-Sum Yap, Wei-Min Hon, Norhayati Ramli, Umi Kalsom Md Shah, and Lai-Yee Phang (2017). Co-production of hydrogen and ethanol by *Escherichia coli* SS1 and its recombinant. *Electronic Journal of Biotechnology*, 30, 64-70.

23) Chiu-Shyan Soo, Wai-Sum Yap, Wei-Min Hon, Norhayati Ramli, Umi Kalsom Md Shah & Lai-Yee Phang (2017). Improvement of hydrogen yield of ethanol-producing *Escherichia coli* recombinants in acidic conditions. *Electronic Journal of Biotechnology*, 26, 27-32.

24) Chiu-Shyan Soo, Wai-Sum Yap, Wei-Min Hon, Norhayati Ramli, Umi Kalsom Md Shah & Lai-Yee Phang (2017). Co-production of hydrogen and ethanol of *Escherichia coli* SS1 isolate. *Chiang Mai Journal of Science*. 44 (3), 768-773.

25) Norhayati Ramli, Suraini Abd-Aziz, Noorjahan Banu Alitheen, Mohd Ali Hassan & Toshinari Maeda (2013). Improvement of Cyclodextrin Glycosyltransferase Gene Expression in *Escherichia coli* by Insertion of Regulatory Sequences Involved in the Promotion of RNA Transcription. *Molecular Biotechnology*, 54, 961-968.

26) Norhayati Ramli, Suraini Abd-Aziz, Mohd Ali Hassan, Noorjahan Banu Alitheen, Kamarulzaman Kamaruddin & Zoolhlimi Ibrahim (2011). Molecular cloning and extracellular expression of cyclodextrin glycosyltransferase gene from *Bacillus* sp. NR5 UPM. *African Journal of Microbiology Research*, 5, 3475-3482.

27) Norhayati Ramli, Suraini Abd-Aziz, Mohd Ali Hassan, Noorjahan Banu Alitheen & Kamarulzaman Kamaruddin (2010). Potential cyclodextrin glycosyltransferase producer from locally isolated bacteria. *African Journal of Biotechnology*, 9(43), 7317-7321.

J. PROJEK PENYELIDIKAN TERDAHULU (Past Research Project)					
Project No.	Project Title	Role	Year	Source of fund	Status
DaSilva Award 2020	Development of value-added products process from palm oil waste and monitoring of bacterial indicators for environmental assessment towards sustainable palm oil industry	Project Leader	2020 - 2022	The Society for Biotechnology, Japan	On-going
Matching Grant UPM-Kyutech/2019/9300463	Development of molecular-based indicator for biomonitoring the river water contamination due to palm oil mill effluent final discharge	Project Leader	2019 - 2021	UPM	On-going
Geran Putra Top Down UPM 2019/9671301	Production of biodiesel from used cooking oil in UPM Bintulu Campus	Co-researcher	2019 - 2021	UPM	On-going
GP/2018/9630500	Quantification of the functional genes amplification in the biodegradation of palm oil mill effluent for the determination of bioindicators in river water	Project Leader	2018 - 2020	UPM	Completed
GP-	Assessment of bacterial	Project Leader	2018 -	UPM	Completed

IPS/2018/953 4600	community shift in the river water polluted by palm oil mill effluent final discharge and post-zero emission system		2020		
FRGS (01-01-17- 1883FR)	Assessment of bacterial community of polluted rivers caused by palm oil mill effluent final discharge and relationship with environmental factors for the development of bioindicator assessment system	Project Leader	2017- 2020	MoE	Completed
Geran Putra Berimpak	Valorisation of waste cooking oil and biodiesel side streams glycerine for sustainable production of biosurfactants by <i>Pseudomonas aeruginosa</i> strains	Co-researcher	2017- 2019	UPM	Completed
SATREPS	Promotion of green economy with palm oil industry for biodiversity conservation in Malaysia	Co-researcher	2014- 2018	MoHE	Completed
FRGS	Characterization of biosurfactant from used cooking oil and interaction improvement for heavy metals removal	Co-researcher	2014- 2017	MoHE	Completed
GP- IPS/2014/942 9400	Molecular cloning of β -glucosidase gene into <i>Candida tropicalis</i> for enhancement of ethanol production from oil palm empty fruit bunch	Project Leader	2014- 2016	UPM	Completed
GP-IPM	Enzyme assisted extraction of essential oils from pineapple wastes using crude cellulase cocktail	Co-researcher	2014- 2016	UPM	Completed
GP- IPM/2013/940 2000	Molecular cloning of cellulase structural gene into <i>Candida tropicalis</i> for one-step bioconversion of oil palm biomass into bioethanol	Project Leader	2013- 2015	UPM	Completed
FRGS/2/2013/ SG05/UPM/02 /17	Characterization of a novel thermostable cyclodextrin glycosyltransferase and the promotion of RNA transcription for production improvement of recombinant enzyme	Project Leader	2013- 2016	MoE	Completed

K. PENYELIAAN (Supervision)			
Programme	Status	Chairman	Member
PhD	Continue	2	2
	Graduated	2	2
Master (with thesis)	Continue	1	3
	Graduated	3	5
Bachelor	Continue	2	-
	Graduated	16	-