

RESUME (CURRICULUM VITAE)



ASSOCIATE PROFESSOR DR SITI SALWA ABD. GANI

PERSONAL DETAILS

NAME	Siti Salwa binti Abd Gani
FIELD OF EXPERT	Agriculture Product Development, Oleochemistry, Formulation Science,
CONTACT NO	+603-89468557 (Office) +6018-2207533(h/p)
POSITION	a) Associate Professor/Associate Researcher 1. Department of Agriculture Technology, Faculty of Agriculture, UPM 2. Halal Products Research Institute, UPM
	b) Deputy Director Cocurriculum and Student Development Centre, UPM (since August 2016)
EMPLOYER	Universiti Putra Malaysia (UPM)
START WORKING	1 st October 2010
DATE APPOINTED AS ASSOCIATE PROFESSOR	1 st June 2016
STAF'S NUMBER	A03764
EMAIL ADDRESS	ssalwaag@upm.edu.my, ssalwa.abdgani@gmail.com
NATIONALITY	Malaysian

REGION	Malay
RELIGION	Islam

EDUCATION QUALIFICATIONS

Year	School/University	Qualification
2003	Matrikulasi Sains, Kementerian Pelajaran Malaysia	Matriculation certificate
2003-2007	Department of Chemistry, Faculty of Science, Universiti Putra Malaysia	Bachelor of Science with Education (Hons.)-Chemistry
2007-2010	Department of Chemistry, Faculty of Science, Universiti Putra Malaysia	Doctor of Philosophy (Oleochemistry) Title: Formation and Characteristics of Engkabang- based Nano Cosmeceuticals
2012	UCL School of Pharmacy, University College London, United Kingdom (Skin Laboratory)	Postdoctoral Fellowship (Formulation Science) Title: Effect of Octyl Salicylate with Respect to the Physical Appearance of Mono/Di Capric and Caprylic Fatty Acids Formulations

ADMINISTRATIVE RESPONSIBILITY

No	Organization	Position	Date/Year
1	Co-curriculum and Student Development Centre, Universiti Putra Malaysia	Deputy Director	22 nd August 2016-present
2	Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Coordinator for Organic Chemistry (ASC0303)	January-April 2016
3	Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Head of Chemistry Unit	December 2010-December 2011
4	Universiti Putra Malaysia	University evaluation panel for UPM courses (COPPA)	1 April 2011-31 st March 2012

HONOURS AND AWARDS

Name of awards	Title	Award Authority/Venue	Award Type/ Level	Year
Community Award (Certificate of Appreciation)	Projek Komuniti Berimpak Tinggi 2016 : Masih Ada yang Sayang	Universiti Putra Malaysia	University	2017
Academic Award (certificate of Appreciation)	MSc Student: Norsuhaili Kamairudin graduated on time (GOT)	Universiti Putra Malaysia	University	2016
Academic Award (Silver Medal)	Optimization of Natural Lipstick Formulation Based on Pitaya (Hylocereus polyrhizus) Seed Oil Using D-Optimal Mixture Experimental Design. Pameran	Universiti Putra Malaysia	University	2016

	Rekacipta Penyelidikan dan Inovasi (PRPI)			
Academic Award (Silver Medal)	Formulation and Process Optimizations of Nano- Cosmeceuticals Containing Purified Swiftlet Nest. Pameran Rekacipta Penyelidikan dan Inovasi (PRPI)	Universiti Putra Malaysia	University	2016
Academic Award (Bronze Medal)	Oil Palm (Elaies guineensis) Leaf Extract as Active Ingredient for Topical Application. Ekspo Inovasi Islam (i-INOVA)	Universiti Sains Islam Malaysia	National	2016
Academic Award (Gold Medal)	Grange WCO- Skin Cream. Malaysia international Young Inventors Olympiad	Perda Mall, Penang, Malaysia	International	2016
Academic Award (Gold Medal)	Himalayan Salts as Dermatitis Soap (HSDS). International Engineering, Invention dan Innovation Exhibition (I- ENVEX 2016)	Universiti Malaysia Perlis	International	2016
Academic Award (Silver Medal)	Grange WCO- Skin Cream. International	Universiti Malaysia Perlis	International	2016

	Engineering, Invention dan Innovation Exhibition (I- ENVEX 2016)				
Academic Award (Gold Medal and Special Award)	Grange WCO- Skin Cream. World Invention Innovation Contest	Chung Mu Art, Seoul, Korea	International	2016	
Academic award (Gold Medal)	Himalayan Salts as Dermatitis Soap (HSDS). Innovation, Invention and Design Exposition	UiTM Shah Alam, Malaysia	National	2016	
Academic award (Gold Medal)	Grange WCO- Skin Cream. Innovation, Invention and Design Exposition	UiTM Shah Alam, Malaysia	National	2016	
Award of Appreciation	Outstanding Service Award (Anugerah Perkhidmatan Cemerlang)	Universiti Putra Malaysia	University	2016	
Academic Award (Certificate)	Outstanding Contribution in Reviewing	Industrial Crops & Products(Elsevier)	International	2016	
Academic award (Bronze Medal)	Oil palm (Elaies guineensis) leaves extract as a natural sunscreen and skin lightening agent for topical application. 27th International	Malaysian Invention and design society (MINDS)	International	2016	

	Invention & Innovation Exhibition (ITEX)					
Academic Award (Certificate of Appreciation)	Msc Student graduated on Time (GOT)	School of Graduate Studies, Universiti Putra Malaysia				2016
Academic Award (Certificate)	Certificate Reviewing	of Industrial & Products(Elsevier)	Crops International			2015
Academic Award (Silver Medal)	Development and Characterization of Soap Formulation from Cooking Oil. International Engineering Invention & Innovation Exhibition (i-INVEX) 2015. 17-19 April 2015	Ministry of Education		International		2015
Academic Award (Silver Medal)	Development and Characterization of Soap Formulation from Cooking Oil. Invention, Innovation & Design Exposition 2015.27-30 April 2015	UiTM		National		2015
Academic Award (Gold Medal)	Development and Characterization of Soap Formulation from Cooking Oil. Research	MOSTI and UiTM		International		2015

	Innovation Symposium Exposition 2015. 15-16 November 2015			
Academic award (Bronze Medal)	Naga Essence for Cosmeceutical Industry. International Conference and Exposition on Inventions by Institutional of Higher Learning (PECIPTA) 4-6 December 2015	Ministry of Education and UPSI	International	2015
2nd Winner of Poster Competition	Potential use of OPLE in topical application. International Palm Oil Congress and Exhibition (6-8 October 2015)	Malaysia Palm Oil Board	International	2015
Certificate of Appreciation	Outstanding Service Award	Universiti Putra Malaysia	University	2014
Press Conference	Putra Cipta siri 2/2015	Universiti Putra Malaysia	National	2015
Academic Award (Gold Medal)	Pameran Rekacipta Penyelidikan dan Inovasi (PRPI), UPM	Universiti Putra Malaysia	University	2014
Academic Award (Silver Medal)	Malaysia Agricultural Innovation Challenge (MAGIC)	Malaysian Agricultural Research and Development Institute (MARDI),	National	2014

Malaysia				
Academic Award (BioInnovation Award-Bronze Medal)	Biotechnology Asia Convention	Malaysian Association of Research Scientists (MARS) and PROTEMP Group	International	2014
Top 5 of The Best Poster	5 th World Halal Research Summit	Halal Industry Development Corporation	International	2012
Certificate of Appreciation	Outstanding Teaching Award	Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Centre	2012
Certificate of Appreciation	Outstanding Service Award	Universiti Putra Malaysia	University	2012
Academic Award	Researcher of the Year	EMTECH Group, UPM	University	2010
Academic Award (The Best Poster)	Seminar Kimia Industri XIV	Fakulti Sains, Universiti Putra Malaysia	University	2010
Academic Award, PhD (Dean Gold Medal Award)	Anugerah Pelajar Cemerlang (For Postgraduate)	Faculty of Science, Universiti Putra Malaysia	Faculty	2010
Academic Award, PhD (The Best PhD Student for Department of Chemistry)	Anugerah Pelajar Cemerlang (For Postgraduate)	Faculty of Science, Universiti Putra Malaysia	Faculty	2010
Academic Award (Bronze Medal)	Malaysia Technology Expo(MTE)-	Malaysian Association of Research Scientists (MARS)	International	2010
Academic	The World	Brussels, Belgium	International	2010

Award (Silver Medal)	Exhibition on Innovation, Research and New Technologies (INNOVA)				
Academic Award (Silver Medal)	Pameran Rekacipta Penyelidikan dan Inovasi (PRPI), UPM	Universiti Malaysia	Putra	University	2009

PROFESSIONAL MEMBERSHIP

Organization	Position	Start Date	End Date	Expertise
Malaysian Examinations Council	Assessor	2017	2017	STPM: Chemistry
Malaysian Examinations Council	Assessor	2016	2016	STPM: Chemistry
Malaysian Examinations Council	Examiner	2016	2016	STPM: Chemistry
The Malaysian Institute of Chemistry	Member	2016	present	*Cosmeceuticals *Formulation Science *Oleochemistry *Nanodelivery
Cosmeceuticals Science Research Group (CSR), UPM	Principle	2014	present	*Cosmeceuticals *Formulation Science *Oleochemistry *Nanodelivery
Matriculation Division, Ministry of Education	Examiner	2013	present	Chemistry
International Society for Stratum Corneum	Member	2012	2013	*Cosmeceuticals *Formulation

Research				Science *Oleochemistry *Nanodelivery
Halal Product Research Institute, Universiti Putra Malaysia	Associate Researcher	February 2011	present	*Cosmeceuticals *Formulation Science *Oleochemistry *Nanodelivery
Nanodelivery Research Group	Associate Researcher	2007	2012	*Cosmeceuticals *Formulation Science *Oleochemistry *Nanodelivery

COMMUNITY SERVICES (Industrial and Community Networking)

No	Organization/Programme	Position	Date/Year
1	Program Asper Care 1.0 2017 Rumah Pengasih Warga Perihatin, Kg Sungai Ramal Dalam, Bangi, Selangor	AJK Perhubungan dan Komunikasi	22 April 2017
2	Program Jelajah Anak UPM (Bakti Siswa) Kg Rincing Hilir, Bangi, selangor	PKPP Representative	22-23 April 2017
3	Moments of unity (Detik-detik perpaduan)	UPM Representative	2017
4	Kurus Kepimpinan Kewangan. (Mekanik Wang) Dengan kerjasama Now Asia International Sdn Bhd	Advisor	10-12 May 2017
5	Varsity Intensive Bussiness Exposure (VIBE)	Director of Programme	2017
6	Seminar Kemahiran Insaniah Kebangsaan	Advisor	2016
7	Putra Satria, Port Dickson		2016
8	Rumah Anak Yatim dan Asnaf As-Solihin, Jalan Kanchong Darat, Banting Charity Programme: Masih Ada Yang Sayang	Director of Programme	30 April 2016

9	Rumah Anak Yatim dan Asnaf As-Solihin, Jalan Kanchong Darat, Banting Academic Programme: Towards Excellence	Director of Programme	May 2016-present
10	Persatuan Jaringan Industri dan Masyarakat, Pusat Asasi sains Pertanian	Member	2015-present
11	Pertubuhan Kebajikan Amal Rukaiyah (Rumah Anak Yatim), Sg Merab Luar, Selangor	Member	2016-present
12	Persatuan Pegawai Akademik UPM	Member	2015-present
13	Persatuan Staf Jabatan Kimia, Fakulti Sains , UPM	Member	2015-present
14	PERMATA UPM	Member	2014-present
15	Persatuan Kanser Network Selangor dan Wilayah Persekutuan (KanWork)	Member /Volunteer	2013-present
16	Persatuan penduduk Impiana residence	Member	2011-present
17	Persatuan Kebajikan Staf Pusat Asasi Sains Pertanian	Member	2010-present
18	Persatuan ALUMNI UPM	Member	2010-present

PROFESSIONAL SERVICES

1. Reviewer

No	Title	Position	Date/Year
1	Industrial Crops and Products: Differential anti-proliferative effect on K562 leukemia cells of Lippia alba (Verbenaceae) essential oils produced under diverse growing, collection, and extraction conditions	Reviewer	2016
2	Industrial Crops and Products: Kinetic Studies on Extraction of Essential Oil from Sandalwood (Santalum album) by Microwave Air-Hydrodistillation Method	Reviewer	2016
3	Food Chemistry: Isotopic ratio analysis of cattle tail hair: A potential tool in building the database for cow milk geographical traceability	Reviewer	2016
4	Food Chemistry: Comparison of Phytochemical Profiles, Antioxidant and Cellular Antioxidant Activities in Different	Reviewer	2016

	Varieties of Blueberry (<i>Vaccinium</i> Spp)		
5	Food Chemistry: Properties of Adsorption of Vitamin B12 on Nanoclay as a Versatile Carrier	Reviewer	2016
6	Industrial Crops and Products: Seasonal variation affects the composition and antibacterial and antioxidant activities of <i>Thymus vulgaris</i>	Reviewer	2016
7	Food Chemistry: Single-step purification and characterization of an extreme halophilic, ethanol tolerant and acidophilic xylanase from <i>Aureobasidium pullulans</i> Y-2311-1 with application potential in food industry	Reviewer	2016
8	Food Chemistry: Structural characterization and physicochemical properties of protein extracted from soybean meal assisted by steam flashexplosion with dilute acid soaking	Reviewer	2016
9	Food Chemistry: Effect of extraction temperature on composition, structure and functional properties of flaxseed gum	Reviewer	2016
10	Food Chemistry: Identification of peptides in wheat germ hydrolysate that demonstrate calmodulindependent protein kinase II inhibitory activity	Reviewer	2016
11	Industrial Crops and Products: Variations in essential oil yield, composition, and antioxidant activity of different tissues from <i>Blumea balsamifera</i> (L.) DC. at different time of growth time	Reviewer	2016
12	Industrial Crops and Products: Investigation of Antioxidant Capacity Variation in the Oregano (<i>Origanum vulgare</i> L.) Collection of the German National Genebank	Reviewer	2016
13	Industrial Crops and Products: <i>Ocimum sanctum</i> Linn.: A comprehensive study on its chemical constituents and their pharmacological activities	Reviewer	2016
14	AAPS PharmSciTech: Improved Solubility and dissolution rate of indomethacin by self-emulsified solid dispersion (SESD) approach	Reviewer	2016

15	World Journal of Agricultural Sciences: Cocoa Livelihood, Damages and Losses along Value Chain in South-Western States of Nigeria	Reviewer	2016
16	Industrial Crops and Products: Fast High resolution Orbitrap MS fingerprinting of the resin of <i>H. taltalense</i> Phil. from the Atacama Desert	Reviewer	2016
17	Industrial Crops and Products: Synthesis and Optimization of <i>Hevea brasiliensis</i> and <i>Ricinus communis</i> as Feedstock for Biodiesel Production: A Comparative Study	Reviewer	2015
18	Industrial Crops and Products: Chemical composition, antioxidant, antimicrobial and hemolytic activities of essential oil from <i>Baccharis trinervis</i> (Lam.) Pers. (Asteraceae)	Reviewer	2015
19	Advances in Crop Science and Technology	Reviewer Board	2015
20	Industrial Crops and Products: Evaluation of <i>Melissa officinalis</i> varieties based on their morphology, yield and active ingredients	Reviewer	2015
21	Industrial Crops and Products: In vitro propagation and anthraquinone quantification in <i>Gynochthodes umbellata</i> (L.) Razafim. & B. Bremer (Rubiaceae) - A dye yielding plant	Reviewer	2015
22	Biotechnology & Biotechnological Equipment: Response surface methodological approach for optimizing production of geranyl propionate catalyzed by carbon nanotubes nanobioconjugates	Reviewer	2015
23	British Journal of Pharmaceutical Research: Antagonistic Activities of Microorganisms Associated with Indigenous Black Soap on Some Selected Skin Pathogens	Reviewer	2015
24	International Food Research Journal: Role of xanthan gum on physicochemical and rheological properties of rice bran oil nanoemulsion	Reviewer	2015

25	Journal of Human Nutrition & Food Science : Physical and Chemical Characteristics of the African Bush Mango (<i>Irvingia Gabonensis</i> Var <i>Garbonensis</i>) Seed Oil	Reviewer	2015
26	Journal of Analytical and Pharmaceutical Chemistry: A simple colorimetric screening of nitrite using iodide in an acidic pH solution	Reviewer	2014
27	Advances in Crop Sciences And Technology: Response of Improved Durum Wheat (<i>Triticum Durum</i> L.) Varieties To Wheat Stem Rust In Central Ethiopia	Reviewer	2014
28	ASEAN Journal on Science and Technology for Development: Fabrication, Rheology and Antioxidant Activity of Palm Esters-based Nanoemulsions Loaded with Tocotrienol	Reviewer	2014

2. Examiner/Assessor (Not in UPM)

No	Title	Position	Date/Year
1	Malaysian Examinations Council	Examiner for STPM Chemistry Paper 3	2016
2	Malaysian Examinations Council	Examiner for STPM Chemistry Paper 2	30 th May- 1 st June 2016
3	Malaysian Examinations Council	Assessor for STPM Chemistry Paper 3	2 nd – 6 th August 2016
4	Matriculation Division, Ministry of Education	Examiner for Chemistry Paper (Peperiksaan Semester Program Matrikulasi KPM)	Mei 2013
5	Matriculation Division, Ministry of Education	Examiner for Chemistry Paper (Peperiksaan	Mei 2014

		Semester Program Matrikulasi KPM)	
6	Matriculation Division, Ministry of Education	Examiner for Chemistry Paper (Peperiksaan Semester Program Matrikulasi KPM)	December 2014
7	Matriculation Division, Ministry of Education	Examiner for Chemistry Paper (Peperiksaan Semester Program Matrikulasi KPM)	Mei 2015

3. Advisor/ Fasilitator

No	Title	Position	Date/Year
1	Projek Mega KKB	Student activity Advisor	2017
2	Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Academic Advisor (Group 8)	2016
3	Pusat Permata Pintar Negara, Universiti Kebangsaan Malaysia	Mentor for Student's Research (Syafiqah Syazwani binti Jafar @Jotic	2016-2017
4	Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Academic Advisor- session 2016/2017	2016
5	Asper Head Start-For Asper's Students	Fasilitator- Session 2016/2017	28 th May 2016
6			
7	Sekolah Berasrama Penuh Rawang, Selangor. Mini Project: Development of Body Soap/scrub using Used Himalaya Salt	Advisor/Supervisor	February- March 2016
8	Starting school: Semester 1(2015/2016)	Facilitator	13 September 2015

9	Starting school: Semester 1 (2015/2016)	Facilitator	23 May 2015
10	Program Menggilap Permata. Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Facilitator	21-22 Nov 2015
11	Maktab Rendah Sains Mara (MRSM) Nobel Laureate's Outreach Camp 2015 Mini project: 1) Development of Ginger (<i>Zingiber officinale</i>) based Emulsion for Cosmeceutical Application 2) Development of Sugar Cane (<i>Saccharum officinarum</i> L.) Waste Based Scrub Soap as Exfoliating Agent for Cosmeceutical Application	Advisor/Supervisor	Ogos 2015
12	Sekolah Berasrama Penuh Rawang, Selangor. Mini Project: Development of Body Soap using Used cooking oil	Advisor/Supervisor	February- March 2015
13	Universiti Malaysia Sabah Industrial training: Nazlinda Ahmad Nazri. Modelling and Optimization of Moisturizing Soap using Artificial Neural Network	Advisor/Supervisor	July - September 2015
14	Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Academic Advisor	2014
15	Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Academic Advisor	2013
16	Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Academic Advisor	2012
17	Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Academic Advisor	2011
18	Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Academic Advisor	2010

4. Others

No	Title	Position	Date/Year
1	Workshop on Nanodelivery and Nanomedicine Title of Lecture: Bioactive Delivery Systems: Lipid-based nanoparticles. Organizer: Institute of Bioscience, UPM Venue: Institute of Bioscience, UPM	Speaker	17 th May 2016
2	Malaysian Examinations Council	Assessor	2016
3	PRGS Grant Progress Report, Universiti Putra Malaysia	Evaluator	2016
4	Industrial Chemistry Seminar. Venue: Hotel Bangi-Putrajaya	Committee member (companion speaker)	2 nd June 2016
5	Bengkel Pemurnian Module Kimia Tak Organik (ASC0301) 'Go for ISBN'	Committee member (Logistic)	18 th -20 th March 2016
6	Bengkel Pemurnian Module Kimia Tak Organik (ASC0301) 'Go for ISBN'	Editor	18 th -20 th March 2016
7	Putra Grant Progress Report, Universiti Putra Malaysia	Evaluator	2016
8	Malaysia International Conference on Oils and Fats. Organizer: Universiti Kebangsaan Malaysia. Venue : Hotel Bangi-Putrajaya, Malaysia	Chairman for Oral Presentation	20 th -21 st August 2014
9	Putra Grant Progress Report, Universiti Putra Malaysia	Evaluator	2015
10	Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Reviewer for Final Examination's Question paper and Answer Scheme	2015

COMMITTEE / CONFERENCE MEMBERSHIP

No	Organization/ Conference	Position	Date/Year
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1	Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Committee member: Revision of Questions and Answers for Final Examination ASC0302 (fast track)	2016
2	Halal Products Research Institute, Universiti Putra Malaysia	Evaluator for PRGS Progress report	2016
3	Chemistry Unit, Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Editor for Organic Chemistry (ASC0303)	2016
4	Chemistry Unit, Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Editor for Physical Chemistry (ASC0302)	2016
5	Chemistry Unit, Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Editor for Inorganic Chemistry (ASC0301)	2016
6	Co-curriculum and Student Development Centre, Universiti Putra Malaysia	Deputy Director	19 th August 2016-present
7	PKPPMAG Magazine (Co-curriculum and Student Development Centre, Universiti Putra Malaysia) ISSN:1985-5311, bil: 2/2016	Editor	2016
8	Seminar Kemahiran Insaniah Kebangsaan	Deputy Chair person	12 November 2016
9	Seminar Kimia Industri	Committee member	2016
10	Seminar Research Proposal (SPS5903/SPS6903) 2 nd Semester 2015/2016. Halal Products Research Institute, Universiti Putra Malaysia	Examiner	2 nd June 2016
11	Postgraduate Seminar. Department of Chemistry, Faculty of Science, Universiti Putra Malaysia	Examiner	7 th – 9 th June 2016
12	Workshop on Gas Chromatography Mass	Committee member	25 th -26 th May 2016

	Spectrometer (GCMS) Halal Products Research Institute, Universiti Putra Malaysia		
13	Fundamental Science Congress. Faculty of Science, Universiti Putra Malaysia	Session Chair	9 th -10 th August 2016
14	Fundamental Science Congress. Faculty of Science, Universiti Putra Malaysia	Proposal/Extended Abstract/Presentation Committee	9 th -10 th August 2016
15	Fundamental Science Congress. Faculty of Science, Universiti Putra Malaysia	Chairperson	9 th -10 th August 2016
16	Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Committee member: Revision of Questions and Answers for Final Examination for Fast Track (Physical Chemistry, ASC0302)	2016
17	Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Moderator of ASASI Education Fair	2 nd March 2016
18	Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Committee member: Revision of Questions and Answers for Final Examination (Inorganic Chemistry, ASC0301)	2016
19	Halal Products Research Institute, Universiti Putra Malaysia	Postgraduate Seminar Examiner	21 st December 2015
20	Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Fire Warden zon 1 (Emergency Response Team)	2015-2017

21	Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Committee member: Revision of Questions and Answers for Final Examination ASC0303	30 June 2015
22	Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Invigilator For Students' Examination	2015 (ASC0301:Inorganic Chemistry) Sem1
23	Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Invigilator For Students' Examination	2015 (ASC0302:Physical Chemistry) Fast Track
24	Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Moderator of ASASI Education Fair	25th February 2015
25	Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Safety Committee	April 2013
26	Faculty of Science, Universiti Putra Malaysia	Postgraduate Seminar Examiner	2015
27	Halal Products Research Institute, Universiti Putra Malaysia	Postgraduate Seminar Examiner	2014
28	Halal Products Research Institute, Universiti Putra Malaysia	Postgraduate Seminar Examiner	2013
29	Faculty of Science, Universiti Putra Malaysia	Postgraduate Seminar Examiner	2015
30	Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Fasilitator for Asasi Starting School	2015
31	Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Fire Warden (Emergency Response Team)	2015
32	Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Timetable Committee	April 2013-April 2015

33	Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Curriculum Committee	April 2013-April 2015
34	Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Invigilator For Students' Examination	2013
35	Faculty of Science, Universiti Putra Malaysia	Postgraduate Seminar Examiner	2015
36	Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Icon of ASASI Education Fair	27 th February 2013
37	Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia	Moderator of ASASI Education Fair	27 th February 2013

RESEARCH GRANTS

No	Grant's Name and Project's Title	Researchers	Sponsor	Date/Year	Amount
1	Projek Kerjasama JAKIM-UPM: Profiling of Fatty Acid Methyl Esters (FAME) in Plant and Animal Oil Origin by using GCFID	Siti Salwa Abd Gani	Jabatan Kemajuan Islam Malaysia (JAKIM)	9 th November 2016-8 th Octobner 2017	RM 225 000
2	PUTRA Grant Soret and Dufour Effects on the Rayieigh-Benard Convection in nanofluids Layer (9481900)	Nor Fadzillah Mohd Mokhtar, Siti Salwa Abd Gani, Izzati Khalidah Khalid	Universiti Putra Malaysia	1 April 2016-1April 2018	RM 20 000
3	PUTRA Grant UPM: Optimization	Siti Salwa Abd Gani,	Universiti Putra	1 st October 2015- 1 st	RM 20 000

	and Characterization of Pitaya Seed Oil Esters via Enzymatic Esterification for Cosmeceutical Application	Mahiran Basri, Suhana Mustafa	Malaysia	October 2017	
4	PUTRA Grant UPM: Development and Optimization of Organic Curcuma Zedoaria Based Nano- cosmeceuticals for Skin Care Applications	Siti Salwa Abd Gani, Mahiran Basri, Rabiatul Adawiah Ramli	Universiti Putra Malaysia	1 st October 2015-1 st October 2017	RM 20 000
5	Geran UPM- Formation and Characterizations of Halal Lips Products from <i>Hylocereus</i> <i>polyrhizus</i>	Siti Salwa Abd Gani, Mahiran Basri, Nursuhaili Kamairudin	Universiti Putra Malaysia	1 st November 2013-31 st October 2015	RM48 000
6	RUGS- Developing Palm Based Nanocosmeceutical	Mahiran Basri, Siti Salwa Abd Gani	Universiti Putra Malaysia	1 st November 2011-1 st August 2013	RM152 000
7	RUGS- Production of Pitaya Seed- Based Nano- cosmeceuticals	Siti Salwa Abd Gani, Mahiran Basri, Hasmah Bidin	Universiti Putra Malaysia	15 th April 2011-15 th Jun 2013	RM30 000
8	RUGS- Formulation Optimization of	Siti Salwa Abd Gani, Siti Husnaa	Universiti Putra Malaysia	1 st September 2012-1 st	RM7000

Edible-Nest Swiftlet Nano- Cosmeceutical	Mohd Taib	September 2013
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PUBLICATIONS AND PATENTS

a) Publications of Research Article

- 1) Izzati Khalidah, Nor Fadzillah Mohd Mokhtar and **Siti Salwa Abd Gani**. Coriolis Force In A Nanofluid Layer In The Presence Of Soret Effect. *2nd International Conference and Workshop on Mathematical Analysis 2016*, AIP conf proceeding. 1750: 020004-1 – 020004-8 (2016)
- 2) Nurul Hafizah Zainal Abidin, Nor Fadzillah Mohd Mokhtar, Izzati Khalidah Khalid, Rosleela Abdul Rahim and **Siti Salwa Abd Gani**. Stability Control in a Binary Fluid Mixture Subjected to Cross Diffusive Coefficients. *International Journal on Advanced Science, Engineering, Information and Technology*. Article in press (2017).
- 3) Nor Fadzillah Mohd Mokhtar and **Siti Salwa Abd Gani**. Convection on Binary Fluid with Cross Diffusive Coefficients and Vertical Magnetic Field. AIP Conf. Proc.: *International Conference on Mathematics, Engineering and Industrial Applications*. 1775: 030048-1 – 030048-8 (2016).
- 4) **Siti Salwa Abd Gani**, Majella E Lane, Rabiatal Adawiah Ramli, Mahiran Basri and Nor Fadzillah Mohd Mokhtar. Effect of Octyl Salicylate With Respect To the Physical Appearance of Mono/Di Caprylic and Capric Fatty Acids Formulations. *Journal of Pharmaceutical Research*. 1(1):1-5 (2016).
- 5) Nor Zuliana Yusof, **Siti Salwa Abd Gani**, And Zafarizal Aldrin Azizul Hasan. Potential Uses Of Oil Palm (*Elaies Guineensis*) Leaf Extract In Topical Application. *Journal Of Oil Palm Research*. Article in Press (2016). **(Q4, ISI & SCOPUS, IF (2015): 0.544)**
- 6) Nor Fadzillah Mohd Mokhtar Nor Azah Abdul Aziz and **Siti Salwa Abd Gani**. Investigation on coupled convection with internal heating in micropolar fluid. *Advances and Applications in Fluid Mechanics*. 19/3 (4),707-723 (2016) **(SCOPUS)**
- 7) Azila Abdul Karim, Azrina Azlan, Amin Ismail, Puziah Hashim, **Siti Salwa Abd Gani**, Badrul Hisyam Zainudin and Nur Azilah Abdullah. Efficacy of cocoa pod extract as antiwrinkle gel on human skin surface. *Journal of Cosmetic Dermatology*. Article in press. (2016). **(Q4, ISI & SCOPUS, IF (2014): 0.876)**
- 8) Norazlin Mat Husin, Mahiran Basri, Puziah Hashim, **Siti Salwa Abd Gani**. Improved properties of lipstick formulation with engkabang fats. *Asian journal of Pharmaceutics*. 9 (2): 125-128 (2015). **(SCOPUS)**
- 9) Norsuhaili Kamairudin, **Siti Salwa Abd Gani***, Hamid Reza Fard Masoumi, Mahiran Basri, Puziah Hashim, Norfadzillah Mohd Mokhtar and Majella E

- Lane. Modeling of a Natural Lipstick Formulation using an Artificial Neural Network. *RSC Advances*. 5, 68632–68638 (2015). **(Q1, ISI & SCOPUS, IF (2014): 3.84)**
- 10) Nur Izzati Mohamad Zen, **Siti Salwa Abd Gani***, Rosnah Shamsuddin and Hamid Reza Fard Masoumi. The Use of D-Optimal Mixture Design in Optimizing Development of Okara Tablet Formulation as a Dietary Supplement. *The Scientific World Journal*. Article ID 684319, <http://dx.doi.org/10.1155/2015/684319> (2015). **(Q2, ISI & SCOPUS, IF (2013): 1.219)**
 - 11) Siti Husnaa Mohd Taib, **Siti Salwa Abd Gani***, Mohamad Zaki Ab Rahman, Mahiran Basri, Amin Ismail and Rosnah Shamsudin. Formulation and process optimizations of nano-cosmeceuticals containing purified swiftlet nest *RSC Advances*. 5: 42322–42328 (2015). **(Q1, ISI & SCOPUS, IF (2014): 3.84)**
 - 12) **Siti Salwa Abd Gani***, Norsuhaili Kamairudin and Rawaida Liyana Razalli. Phase Behaviour Study of Pitaya Seed Oil: Jojoba Oil with Non-Ionic Surfactants in Emulsion System. *Asian Journal of Chemistry*. 27(9):3452-3456 (2015). **(Q4, ISI & SCOPUS, IF (2013):0.355)**
 - 13) **Siti Salwa Abd Gani*** and Siti Zulaika Adisah. Phase Behaviour Study Of Swiftlet Nest Using Virgin Coconut Oil With Non-Ionic Surfactants. *Malaysian Journal of Analytical Sciences*. 19(1):184-193 (2015). **(SCOPUS)**
 - 14) Farrah Payyadhah Borhan, **Siti Salwa Abd Gani***, and Rosnah Shamsuddin. The Use of D-Optimal Mixture Design in Optimising Okara Soap Formulation for Stratum Corneum Application. *The Scientific World Journal*. Article ID 173979. <http://dx.doi.org/10.1155/2014/173979> (2014). **(Q2, ISI & SCOPUS, IF (2013): 1.219)**
 - 15) Norsuhaili Kamairudin , **Siti Salwa Abd Gani***, Hamid Reza Fard Masoumi and Puziah Hashim. Optimization of Natural Lipstick Formulation Based on Pitaya (*Hylocereus polyrhizus*) Seed Oil Using D-Optimal Mixture Experimental Design. *Molecules*. 19: 16672-16683 (2014). **(Q2, ISI & SCOPUS, IF (2014): 2.416)**
 - 16) Azila Abdul Karim, Azrina Azlan, Amin Ismail, Puziah Hashim, **Siti Salwa Abd Gani**, Badrul Hisyam Zainudin and Nur Azilah Abdullah. Phenolic composition, antioxidant, anti-wrinkles and tyrosinase inhibitory activities of cocoa pod extract. *BMC Complementary and Alternative Medicine*. 14(1):381, doi: 10.1186/1472-6882-14-381 (2014). **(Q2, ISI & SCOPUS, IF (2014): 2.020)**
 - 17) **Siti Salwa Abd Gani***, Mahiran Basri, Anuar Kassim, Raja Noor Zaliha Raja Abd Rahman, Abu Bakar Salleh, Zahariah Ismail. Characterization of Encapsulated Titanium Dioxide Using Engkabang Fat Esters For Cosmeceutical

- Purposes. *International Journal of Pharmaceutical, Chemical and Biological Sciences*. 4(3): 725-737 (2014).
- 18) Hamid Reza Fard Masoumi, Mahiran Basri, **Siti Salwa Abd Gani**, Yadollah Abdollahi, Dzulkifli Kuang. Comparison of Estimation Capabilities of the Artificial Neural Network with the Wavelet Neural Network in Lipase-Catalyzed Synthesis of Triethanolamine-Based Esterquats Cation Surfactant. *Journal of Surfactants and Detergents*. In press, DOI 10.1007/s11743-013-1539-0 (2013). **(Q2, ISI & SCOPUS, IF (2013): 1.352)**
 - 19) Nur Nadiah Abdul Rasyid, Intan Safinar Ismail, **Siti Salwa Abd Gani**, Faujan Ahmad. Phase Behaviour of Ternary System: Soybean Oil/Non-Ionic Surfactants/Deionized Water. *Asian Journal of Chemistry*. 25(9): 4929-4931 (2013). **(Q4, ISI & SCOPUS, IF (2013):0.355)**
 - 20) Hamid Reza Fard Masoumi, Mahiran Basri, **Siti Salwa Abd Gani**, Yadollah Abdollahi, Dzulkifli Kuang, Malahat Razaee. Optimization of process parameters for lipase-catalyzed synthesis of esteramines-based esterquats using wavelet neural network (WNN) in 2-liter bioreactor. *Journal of Industrial and Engineering Chemistry*. In press, <http://dx.doi.org/10.1016/j.jiec.2013.09.019> (2013). **(Q2, ISI & SCOPUS, IF (2013): 2.063)**
 - 21) Hamid Reza Fard Masoumi, Mahiran Basri, Anuar Kassim, Dzulkifly Kuang Abdullah, Yadollah Abdollahi, **Siti Salwa Abd Gani**, and Malahat Razaee. Statistical Optimization of Process Parameters for Lipase-Catalyzed Synthesis of Triethanolamine-Based Esterquats Using Response Surface Methodology in 2-Liter Bioreactor. *The Scientific World Journal*. In press, <http://dx.doi.org/10.1155/2013/962083> (2013). **(Q2, ISI & SCOPUS, IF (2013): 1.219)**
 - 22) Syaifinaz Zainol, Mahiran Basri, Hamidon Basri, Ahmad Fuad Shamsuddin, **Siti Salwa Abd Gani**, Roghayeh Abedi Karjiban, Emilia Abdul Malek. Formulation Optimization of a Palm-based nanoemulsion System Containing Levodopa. *International Journal of Molecular Sciences*. 13(10): 13049-13064 (2012). **(Q2, ISI & SCOPUS, IF (2012): 2.464)**
 - 23) Rozainita Rosley, Mahiran Basri, **Siti Salwa Abd Gani**, Emilia Abdulmalek, Abu Bakar Salleh, Raja Noor Zaliha Raja Abd Rahman, Siti Shapor Siraj. Enzymatic esterification of river catfish (*Mystus nemurus*) fatty acids to enrich ω -3 polysaturated fatty acids. *Asian Journal of Chemistry*. 24(6):2679-2684 (2012). **(Q4, ISI & SCOPUS, IF (2012): 0.253)**
 - 24) **Siti Salwa Abd Gani***, Mahiran Basri, Anuar Kassim, Raja Noor Zaliha Raja Abd Rahman, Abu Bakar Salleh, Zahariah Ismail. Engkabang fat esters for cosmeceutical formulation. *Journal of Surfactants and Detergents*. 14: 227-233 (2011). **(Q2, ISI & SCOPUS, IF (2011): 1.545)**

- 25) **Siti Salwa Abd Gani***, Mahiran Basri, Anuar Kassim, Raja Noor Zaliha Raja Abd Rahman, Abu Bakar Salleh, Zahariah Ismail. Engkabang fat as a base in preparing encapsulated titanium dioxide for cosmetics purpose. *Asian Journal of Chemistry*. 23(1):380-384(2011). **(Q4, ISI & SCOPUS, IF (2011): 0.266)**
- 26) **Siti Salwa Abd Gani***, Mahiran Basri, Anuar Kassim, Raja Noor Zaliha Raja Abd Rahman, Abu Bakar Salleh, Zahariah Ismail. Characterization and effect on skin hydration of engkabang-based emulsions. *Bioscience Biotechnology and Biochemistry*. 74(6): 1188-1193 (2010). **(Q2, ISI & SCOPUS, IF (2010): 1.292)**
- 27) **Siti Salwa Abd Gani***, Mahiran Basri, Anuar Kassim, Abu Bakar Salleh, Raja Noor Zaliha Raja Abd Rahman, Zahariah Ismail. Phase behavior of engkabang fat with nonionic surfactants. *Tenside Surfactants Detergents*. 46(4):195-198 (2009). **(Q4, ISI & SCOPUS, IF (2009): 0.329)**

b) Proceeding Paper

1. **Siti Salwa Abd Gani**, Hasmah Bidin, Mahiran Basri, Emilia Abd. Malek and Mohamed Salama Mohamed. Development and Characterization of Pitaya Seed Oil-In-Water Nanoemulsions for Cosmeceuticals Application. Malaysia International Halal research and Education Conference. Marriott Putrajaya, Malaysia. December 2-4, 2014.
2. Siti Husnaa Mohd Taib, **Siti Salwa Abd Gani**, Mohamad Zaki Ab Rahman, Mahiran Basri and Rosnah Shamsudin. The Effect of Swiftlet Nest Cleaning Process on the Nitrite and Protein Contents. *Malaysia International Halal research and Education Conference*. Marriott Putrajaya, Malaysia. December 2-4, 2014.
3. Azila Abdul Karim, Azrina Azlan, Amin Ismail, Puziah Hashim, **Siti Salwa Abd Gani**, Nur Azilah A. Elastase inhibition and antioxidant activities of cocoa pod extract. International Science and Technology Conference (ISTEC). Hotel Sharjah Inn, **Dubai UAE**. 13-15 December 2012.
4. **Siti Salwa Abd Gani**, Mohd Rezuwan Shah Zakaria, Mahiran Basri, Chong Kah Huong, Anuar Kassim, Raja Noor Zaliha Raja Abd Rahman, Abu Bakar Salleh, Zahariah Ismail. Effect of Formation Techniques on The Particle Size Of Cosmeceutical Emulsions. *Malaysia Science and Technology Congress*. Kuala Lumpur. November 9-11, 2010.

c) Patents

1. **Siti Salwa Abd Gani**, Hasmah Bidin, Mahiran Basri, Emilia Abd. Malek. Cosmeceutical Formulation, Use Thereof and Method of Preparation Thereof. Malaysia Patent Filing. PI2014702545 (2014).

2. Mahiran Basri, **Siti Salwa Abd Gani**, Nur Fariza Abd Rahman, Abu Bakar Salleh, Raja Noor Zaliha Raja Abd Rahman. Emulsion System Derived from Engkabang Fat Esters. United States Patent. Patent No. US8,598,236 B2, 3rd of December (2013).
3. Mahiran Basri, **Siti Salwa Abd Gani**, Anuar Kassim, Abu Bakar Salleh, Raja Noor Zaliha Raja Abd Rahman, Zahariah Ismail. A topical applied formulation containing illipe fat and/or ester and a method producing the same. Malaysia Patent Filing. PI 20091192 (2009).
4. Mahiran Basri, **Siti Salwa Abd Gani**, Nur Fariza Abdul Rahman, Abu Bakar Salleh, Raja Noor Zaliha Raja Abd Rahman. An emulsion system derives from engkabang fat esters. Malaysia Patent Filing. PI 20092650 (2009).

EXPO/ CONGRESS/ EXHIBITION/ CONFERENCE ATTENDED

1. **Siti Salwa Abd Gani**, Siti Husnaa Mohd Taib, Mohamad Zaki Ab Rahman, Mahiran Basri, Amin Ismail, Rosnah Shamsudin and Sarah Idris. Formulation and Process Optimizations of Nano-Cosmeceuticals Containing Purified Swiftlet Nest. Pameran Rekacipta Penyelidikan dan Inovasi (PRPI) Pusat Kebudayaan dan Kesenian Sultan Abdul Aziz Shah, Universiti Putra Malaysia, Selangor, Malaysia. 2016 (Silver Medal)
2. **Siti Salwa Abd Gani**, Norsuhaili Kamairudin , Hamid Reza Fard Masoumi, Puziah Hashim and Asiah Abdullah. Optimization of Natural Lipstick Formulation Based on Pitaya (*Hylocereus polyrhizus*) Seed Oil Using D-Optimal Mixture Experimental Design. Pameran Rekacipta Penyelidikan dan Inovasi (PRPI) Pusat Kebudayaan dan Kesenian Sultan Abdul Aziz Shah, Universiti Putra Malaysia, Selangor, Malaysia. 2016 (Silver Medal)
3. Nor Zuliana Yusof, **Siti Salwa Abd Gani**, Zafarizal Aldrin Azizul Hasan. Oil Palm (*Elaies guineensis*) Leaf Extract as Active Ingredient for Topical Application. Ekspo Inovasi Islam (i-INOVA) Universiti Sains Islam Malaysia National. 2016 (Bronze Medal)
4. **Siti Salwa Abd Gani**. Bioactives delivery systems: lipid-based nanoparticles. Workshop on Nanomedicine and Nanodelivery. Institute of Bioscience, Universiti Putra Malaysia, Selangor, **Malaysia**. 17th -19th May 2016.
5. **Siti Salwa Abd Gani**, Majella E Lane, Mahiran Basri. Effect of Octyl Salicylate with respect to the physical appearance of mono/di capric and caprylic fatty acids Formulations. International Conference on Pharmaceutical Chemistry. Frankfurt, **Germany**. 5th -7th September 2016.

6. Nor Zuliana Yusof, **Siti Salwa Abd Gani**, Zafarizal Aldrin Azizul Hasan, Norashikin Ahmad, Hazimah Abu Hassan. Oil palm (*Elaies guineensis*) leaves extract as a natural sunscreen and skin lightening agent for topical application. 27th International Invention & Innovation Exhibition (ITEX 2016). Kuala Lumpur Convention Centre, **Malaysia**. 12th -14th May 2016. **(Bronze Medal)**
7. **Siti Salwa Abd Gani**, Fazilah Farhana binti Abd Aziz, Nor Rasidah Khamis, Siti Fatimah Balqis Jamaludin. 19th Industrial Chemistry Seminar. Bangi-Putrajaya Hotel, Bandar Baru Bangi, Selangor, **Malaysia**. 2nd June 2016.
8. Nor Zuliana Yusof, **Siti Salwa Abd Gani**, Zafarizal Aldrin Azizul Hasan. Potential Use of Oil Palm Leaves (*Elaies guineensis*) extract in topical application. International Palm Oil Congress and Exhibition. Kuala Lumpur Convention Centre, **Malaysia**. 6th -8th October 2015.
9. Nur Amira Hanis Binti Pilus, **Siti Salwa Abd Gani**, Nur Fazreen Atila Binti Hashim, Khalijah Binti Talha, Sharifah Nurhafizah Binti Lukman. Optimization of moisturizing soap containing pitaya seed (*hylocereus polyrhizus*) using d-optimal mixture experimental design. 18th Industrial Chemistry Seminar (SKI XVIII). Cyberview Resort & Spa, Cyberjaya, **Malaysia**. 9th June 2015.
10. **Siti Salwa Abd Gani**. Press Conference. Putra Cipta siri 2/2015. Naga Essence for Cosmeceuticals. Universiti putra Malaysia. 22nd of April 2015.
11. **Siti Salwa Abd Gani**, Mahiran Basri, Norsuhaili Kamairudin, Suhana Mustafa, Hasmah Bidin, Emilia Abd Malek. Naga Essence Formulations for Cosmeceutical Industry. 14th International Conference and Exposition on Inventions by Institutions of Higher Learning, PECIPTA. Organizer: Malaysia Ministry of Education. Kuala Lumpur Convention Centre, **Malaysia**. 4th -6th December 2015. **(Bronze Medal)**
12. **Siti Salwa Abd Gani**. Halal Executive Congress Malaysia (Kongres Eksekutif Halal Malaysia). Organizer: Halal Association Executive Profession of Malaysia, Halal Products Research Institute UPM, Islamic Development Department of Malaysia, Islamic religious council of Wilayah Persekutuan. Auditorium Faculty of Engineering UPM. 10th - 11th March 2015.
13. Siti Husnaa Mohd Taib, **Siti Salwa Abd Gani**, Mohamad Zaki Ab Rahman, Mahiran Basri, and Rosnah Shamsudin. The Effect of Swiftlet Nest Cleaning Process on the Nitrite and Protein Contents. Malaysia International Halal Research and Education Conference (MIHREC). Organizer: Halal Product Research Institute, Universiti Putra Malaysia. Marriott Putrajaya Hotel, **Malaysia**. 2nd -4th December 2014.

14. **Siti Salwa Abd Gani**, Hasmah Bidin, Mahiran Basri, Emilia Abd. Malek, Mohamed Salama Mohamed. Development and Characterization of Pitaya Seed Oil-In-Water Nanoemulsions for Cosmeceuticals Application. Malaysia International Halal Research and Education Conference (MIHREC). Organizer: Halal Product Research Institute, Universiti Putra Malaysia. Marriott Putrajaya Hotel, **Malaysia**. 2nd -4th December 2014.
15. **Siti Salwa Abd Gani**, Hasmah Bidin, Mahiran Basri, Emilia Abd. Malek, Mohamed Salama Mohamed. Optimization of Pitaya Seed Extract-based Nano-cosmeceutical Formulations using Response Surface Methodology (RSM). Malaysian Agricultural Innovation Challenge (MAGIC). Malaysia Agro Exposition Park Serdang, Selangor, **Malaysia**. 6th -8th November 2014. **(Silver Medal)**
16. **Siti Salwa Abd Gani**, Hasmah Bidin, Mahiran Basri, Emilia Abd. Malek, Mohamed Salama Mohamed. Dr's Solutions for Skincare. Biotechnology Asia Convention. Kuala Lumpur Convention Centre, **Malaysia**. 19th -21st November 2014. **(Bioinnovation Award: Bronze Medal)**
17. **Siti Salwa Abd Gani**, Hasmah Bidin, Mahiran Basri, Emilia Abd. Malek, Mohamed Salama Mohamed. Optimization of Pitaya Seed Extract-based Nano-cosmeceutical Formulations using Response Surface Methodology (RSM). Pameran Rekacipta Penyelidikan dan Inovasi (PRPI). Organizer: Universiti Putra Malaysia. Universiti Putra Malaysia, Selangor, **Malaysia**. 30th September-1st October 2014. **(Gold Medal)**
18. **Siti Salwa Abd Gani** and Siti Zulaika Adisah. Phase Behaviour Study of Swiftlet Nest Using Virgin Coconut Oil with Non-Ionic Surfactants. Malaysia International Conference on Oils and Fats. Organizer: Universiti Kebangsaan Malaysia. Hotel Bangi-Putrajaya, **Malaysia**. 20th -21st August 2014.
19. **Siti Salwa Abd Gani**, Hasmah Bidin, Mahiran Basri, Emilia Abd. Malek, Mohamed Salama Mohamed. Optimization of Pitaya Seed Extract-based Nano-cosmeceutical Formulations using Response Surface Methodology (RSM). 1st International Conference on Industrial Pharmacy. Swiss Garden Spa and Resort, Kuantan, Pahang, **Malaysia**. 16th -17th August 2014.
20. **Siti Salwa Abd Gani**, Mahiran Basri, Anuar Kassim, Raja Noor Zaliha Raja Abd Rahman, Abu Bakar Salleh, Zahariah Ismail. Characterization of Encapsulated Titanium Dioxide Using Engkabang Fat Esters for Cosmeceutical Industry. 44th World Chemistry Congress. Organizer: Turkish Chemical Society and IUPAC (International Union of Pure and Applied Chemistry). **Istanbul, Turkey**. 11th -16th August 2013.

21. **Siti Salwa Abd Gani**. Stratum Corneum VII, Skin Forum. Organizer: International Society for Stratum Corneum Research. **Cardiff, United Kingdom**. 10th-12th September 2012.
22. Azila Abd Karim, Azrina Azlan, **Siti Salwa Abd Gani**. Antioxidant Properties of Cocoa Pod Extract for Development of Halal cosmeceutical Cream (Top 5). 5th World Halal Research Summit. Kuala Lumpur Convention Centre, Malaysia. 4th-5th April 2012.
23. Azila Abdul Karim, Azrina Azlan, Amin Ismail, Puziah Hashim, **Siti Salwa Abd Gani**, Nur Azilah A. Elastase inhibition and antioxidant activities of cocoa pod extract. International Science and Technology Conference (ISTEC). Hotel Sharjah Inn, **Dubai UAE**. 13-15 December 2012.
24. Azila Abdul Karim, Azrina Azlan, Amin Ismail, Puziah Hashim, **Siti Salwa Abd Gani**, Nur Azilah A. Antioxidant properties of cocoa pod husk and its potential use in Cosmeceutical Product. 17th International Cocoa Research Conference (ICRC 2012). **Yaounde, Cameroon**. 15-20 October 2012.
25. Mahiran Basri, **Siti Salwa Abd Gani**, Nur Fariza Abdul Rahman, Mohd Basyaruddin Abdul Rahman, Anuar Kassim, Raja Noor Zaliha Raja Abd Rahman, Abu Bakar Salleh, Zahariah Ismail. Nano-engkabang formulations for cosmeceutical application. Malaysia Agriculture, Horticulture and Agrotourism International Show 2010 (MAHA International 2010). MARDI, Serdang, Selangor, **Malaysia**. 26th November-5th December 2010.
26. **Siti Salwa Abd Gani**, Mahiran Basri, Nur Fariza Abdul Rahman, Mohd Basyaruddin Abdul Rahman, Anuar Kassim, Raja Noor Zaliha Raja Abd Rahman, Abu Bakar Salleh, Zahariah Ismail. Nano-engkabang formulations for cosmeceutical application. The World Exhibition on Innovation, Research and New Technologies (INNOVA). **Brussels, Belgium**. 18th -20th November 2010. **(Silver Medal)**
27. **Siti Salwa Abd Gani**, Mohd Rezuwan Shah Zakaria, Mahiran Basri, Chong Kah Huong, Mohd Basyaruddin Abdul Rahman, Anuar Kassim, Raja Noor Zaliha Raja Abd Rahman, Abu Bakar Salleh, Zahariah Ismail. Effect of formation techniques on the particle size of cosmeceutical emulsions. Malaysia Science and Technology Congress. Kuala Lumpur, **Malaysia**. 9th - 11th November 2010.
28. Syafinaz Zainol, Mahiran Basri, **Siti Salwa Abd Gani**. Formulation of argan oil nano-emulsion system containing an organic sunscreen agent. Industrial Chemistry Seminar XIV. Dewan Kuliah Utama Fakulti Perubatan, Universiti Putra Malaysia, Malaysia. 10th April 2010. **(The Best Poster)**.
29. Mahiran Basri, **Siti Salwa Abd Gani**, Mohd Basyaruddin Abdul Rahman, Anuar Kassim, Raja Noor Zaliha Raja Abd Rahman, Abu Bakar Salleh, Zahariah Ismail. Nano-engkabang formulations for cosmeceutical

application. Malaysia Technology Expo. Putra World Trade Centre, Kuala Lumpur, **Malaysia**. 4th -6th February 2010. **(Bronze Medal)**

30. **Siti Salwa Abd Gani**, Mahiran Basri, Mohd Basyaruddin Abdul Rahman, Anuar Kassim, Raja Noor Zaliha Raja Abd Rahman, Abu Bakar Salleh, Zahariah Ismail. Nano-engkabang formulations for excellent skin hydration. Pameran Reka Cipta, Penyelidikan & Inovasi (PRPI 09). Pusat Kebudayaan dan Kesenian Sultan Abdul Aziz Shah, Universiti Putra Malaysia, Selangor, **Malaysia**. 28th July 2009. **(Silver Medal)**
31. **Siti Salwa Abd Gani**, Mahiran Basri, Mohd Basyaruddin Abdul Rahman, Anuar Kassim, Raja Noor Zaliha Raja Abd Rahman, Abu Bakar Salleh, Zahariah Ismail. Phase Behavior Study of Engkabang Fat and Engkabang Wax Ester using nonionic Surfactant. International Conference for Young Chemist. Universiti Sains Malaysia, Penang, **Malaysia**. 16th -21th June 2008.

SEMINAR/WORKSHOP ATTENDED (ADMINISTRATION)

Date	Details
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10-12 Mei 2017		<ul style="list-style-type: none"> Kursus Kepimpinan Kewangan Organized by Cocurriculum and Student Development Centre, UPM And Now Asia International Sdn Bhd Venue: Kompleks Mahasiswa, Universiti Putra Malaysia
4 th -5 th February 2014		<ul style="list-style-type: none"> SRI's Five Disciplines of Innovation Workshop Organized by: Putra Science Park, Universiti Putra Malaysia Venue: Universiti Putra Malaysia
12 th -14 th April 2013		<ul style="list-style-type: none"> Team Building Training for ASASI's staff. Reserve Forest of Air Hitam, Puchong, Selangor Organized by Centre of Foundation Studies for Agricultural, Universiti Putra Malaysia
27 th July 2011		<ul style="list-style-type: none"> Kursus Mencegah Kebakaran Venue: Institute of Advance Technology (ITMA), UPM Organized by Centre of Foundation Studies for Agricultural Science
14 th April 2011		<ul style="list-style-type: none"> Kursus Semakan Keaslian dan Pencegahan Plagiarisme (Turnitin) Venue: Info comm Development (iDEC), UPM Organized by Centre for Academic Development (CaDE), Universiti Putra Malaysia
7 th April 2011		<ul style="list-style-type: none"> Workshop on Writing a Business Plan Venue: Faculty of Engineering, Universiti Putra Malaysia Organized by Research Management Centre, Universiti Putra Malaysia
2 nd -3 rd December 2010		<ul style="list-style-type: none"> Program Pembangunan Kepimpinan Inovatif dan Transformasi Pensyarah Muda Venue: Holiday Inn Glemarie, Shah Alam Selangor Organized by AKEPT, Ministry of Higher Education

SEMINAR/WORKSHOP ATTENDED (TEACHING AND LEARNING)

Date	Details
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27 th -30 th December 2016	<ul style="list-style-type: none"> • Bengkel Kimia Organik (ASC0303) • Organized by: Chemistry Unit, Centre of Foundation Studies for Agricultural, Universiti Putra Malaysia • Venue: Centre of Foundation Studies for Agricultural, Universiti Putra Malaysia
18 th -20 th March 2016	<ul style="list-style-type: none"> • Bengkel Pemurnian Modul Kimia Tak Organik ASC0301' Go for ISBN' • Organized by: Chemistry Unit, Centre of Foundation Studies for Agricultural, Universiti Putra Malaysia • Venue: Klana Beach Resort, Port Dickson
15 th -16 th June 2011	<ul style="list-style-type: none"> • Kursus Kesarjanaan dalam Pengajaran dan Pembelajaran • Venue: Faculty of Human Ecology, UPM • Organized by Centre for Academic Development (CaDE), Universiti Putra Malaysia
2 nd -3 rd March 2011	<ul style="list-style-type: none"> • Kursus Hasil Pembelajaran (LO) • Venue: Faculty of Human Ecology, UPM • Organized by Centre for Academic Development (CaDE), Universiti Putra Malaysia
28 th February 2011	<ul style="list-style-type: none"> • Bengkel Kaedah Pengajaran berasaskan Student Centered Learning (SCL): Pendekatan Modular • Venue: Faculty of Educational Studies, UPM • Organized by Centre for Academic Development (CaDE), Universiti Putra Malaysia

SEMINAR/WORKSHOP ATTENDED (RESEARCH)

Date	Details
19 th -20 th December 2016	<ul style="list-style-type: none"> • Science and Technology Exchange Program (STEP) in Islamic Countries • Venue: Universiti Putra Malaysia • Organized by: Universiti Putra Malaysia and Mustafa Prize
2 nd June 2016	<ul style="list-style-type: none"> • 19th Industrial Chemistry Seminar (SKI XIX) • Venue: Hotel Bangi-Putrajaya • Organized by: Department of Chemistry, Faculty of Science, UPM

17-19 May 2016	<ul style="list-style-type: none"> • Workshop on Nanomedicine and Nanodelivery • Venue: Institute of Bioscience, UPM • Organized by: Institute of Bioscience, UPM
18 th May 2016	<ul style="list-style-type: none"> • Workshop on Manuscript Writing • Venue: Putra Chancelori, UPM • Organized by Halal Products Research Institute, UPM
21 st -22 nd December 2015	<ul style="list-style-type: none"> • Mixture Design and Artificial Neural Network Workshop • Organized by: Halal Products Research Institute UPM • Venue: Halal Products Research Institute UPM
15-17 December 2015	<ul style="list-style-type: none"> • Conventional and Real Time PCR for Beginners • Organized by: Halal Products Research Institute UPM • Venue: Halal Products Research Institute UPM
19 th June 2014	<ul style="list-style-type: none"> • IPPH's Manuscript Evaluation Workshop 2014 • Organized by: Halal Product Research Institute UPM • Venue: Seminar Room, Kolej Keenam, Universiti Putra Malaysia
1 st and 2 nd October 2014	<ul style="list-style-type: none"> • Workshop on Design of Experiment (DOE) Organized by: Faculty of Science and Food Technology, Universiti Putra Malaysia Venue: Faculty of Science and Food Technology, UPM
31 st October 2013	<ul style="list-style-type: none"> • National seminar on Pharmaceutical Material Characterization 2013. • Venue: Faculty of Pharmacy, Universiti Teknologi Mara. Bandar Puncak Alam, Selangor, Malaysia • Organized by Faculty of Pharmacy, Universiti Teknologi Mara. Bandar Puncak Alam, Selangor, Malaysia.
21 st -23 rd May 2013	<ul style="list-style-type: none"> • Herbal Formulation Workshop. • Venue: Institute of Bioproduct, Universiti Teknologi Malaysia. Skudai, Johor Bahru, Malaysia • Organized by Institute of Bioproduct, Universiti Teknologi Malaysia. Skudai, Johor Bahru, Malaysia
6 th -8 th July 2011	<ul style="list-style-type: none"> • Workshop on Nanomedicine using Polymers with Controlled Structures • Venue: Advanced Material Research Centre (AMREC), Kulim Hi-Tech Park, Kedah, Malaysia • Organized by SIRIM
11 th June 2011	<ul style="list-style-type: none"> • Seminar on Current Treatment of Cancer • Venue: Faculty of Medicine and Health Sciences,

		Universiti Putra Malaysia
		<ul style="list-style-type: none"> Organized by KanWork and Care
17 th 2011	February	<ul style="list-style-type: none"> Scientific Update on Umami Taste: Nutritional & Phycological Implications on Human Health Venue: Faculty of Medicine and Health Sciences, Universiti Putra Malaysia Organized by Faculty of Medicine and Health Sciences, Universiti Putra Malaysia and Umami Information Centre (UIC), Japan
25 th May 2010		<ul style="list-style-type: none"> Seminar on Pioneer of Planetary Centrifugal Mixers (Mixing/ Dispersing/ Stirring & Defoaming) Venue: Faculty of Science, Universiti Putra Malaysia Organized by Faculty of Science, Universiti Putra Malaysia
24 th May 2010		<ul style="list-style-type: none"> Seminar on Stated High Pressure Homogeniser and Cell Disrupters Venue: Institute of Bioscience, Universiti Putra Malaysia Organized by Institute of Bioscience, Universiti Putra Malaysia
19 th April 2010		<ul style="list-style-type: none"> Journal Workshop 2010 UPM-Thomson Reuters Jointly organized by Universiti Putra Malaysia and Thomson Reuters Venue: Faculty of Engineering, Universiti Putra Malaysia Organized by Universiti Putra Malaysia
22 nd October 2009		<ul style="list-style-type: none"> Perdana Lecture 'Unlocking the Miracle of Lipases' By Dr. Kamariah Long Venue: Auditorium MARDI Organized by MARDI
21 st -22 nd May 2009	May	<ul style="list-style-type: none"> Workshop on Formulation of Creams, Lotions and Natural Soaps Venue: Fermentation Technology Unit, Block 15, Putra Infoport Organized by Fermentation Technology Unit, Putra Infoport, Universiti Putra Malaysia
4 th May 2009		<ul style="list-style-type: none"> Seminar on Green Chemistry Venue: Bilik Saintis Gemilang, Faculty of Science, Universiti Putra Malaysia Organized by Department of Chemistry, Faculty of Science, Universiti Putra Malaysia

27 th -29 th March 2009	<ul style="list-style-type: none"> • Manuscript Writing • Venue: Shah's Beach Resort, Melaka • Organized by Enzyme and Microbial Technology Research Group, Universiti Putra Malaysia
18 th -19 th February 2009	<ul style="list-style-type: none"> • National Workshop on Nano Delivery Systems for Nutrition, Cosmetics, Pharma and Agro. • Venue: Institute of Bioscience, Universiti Putra Malaysia. • Organized by Laboratory of Molecular Biomedicine, Institute of Bioscience, Universiti Putra Malaysia & Malaysian Nuclear Agency
29 th January 2009	<ul style="list-style-type: none"> • Kolokium Sains • Venue: Bilik Saintis Gemilang, Faculty of Science, Universiti Putra Malaysia • Organized by Department of Chemistry, Faculty of Science, Universiti Putra Malaysia
9 th January 2009	<ul style="list-style-type: none"> • Seminar on White Biotechnology Future of Industrial Enzyme Research and Production • Venue: Nucleus Block, UKM MTDC Technology Centre, Bangi, Selangor. • Organized by UKM MTDC Technology Centre, Bangi, Selangor
13 th October 2008	<ul style="list-style-type: none"> • UK-Malaysia Partners in Science Symposium on "Recent Developments in Medicinal Chemistry" • Venue: Universiti Malaya • Organized by Universiti Malaya
28 th August 2008	<ul style="list-style-type: none"> • "Double seminars on Nanoparticles" for Health and Beauty. Speaker: Prof. Dr. Rainer Müller Free University of Berlin, Germany • Venue: Institute of Bioscience, Universiti Putra Malaysia • Organized by Institute of Bioscience, Universiti Putra Malaysia
30 th July-1 st August 2008	<ul style="list-style-type: none"> • Workshop on Introduction to Electron Microscopy for Material Sciences • Venue: Institute of Bioscience, Universiti Putra Malaysia • Organized by Institute of Bioscience, Universiti Putra Malaysia
11 th June 2008	<ul style="list-style-type: none"> • IKM Postgraduate Chemistry Medalist Seminar • Venue: Monash University

	<ul style="list-style-type: none"> Organized by Monash University
8 th May 2008	<ul style="list-style-type: none"> Application of Transmission Electron Microscope in Nano Research. Speaker: Dr. Wim Voorhout, FEI Company, Holland Venue: Institut of Bioscience, Universiti Putra Malaysia Organized by Institut of Bioscience, Universiti Putra Malaysia
1 st -2 nd April 2008	<ul style="list-style-type: none"> Technique Workshop (GC, GCMS, HPLC) Speaker: Foo He Chuang, Perkin Elmer Sdn. Bhd. Venue: Department of Chemistry, Faculty of Science, UPM Organized by Department of Chemistry, Faculty of Science, UPM
27 th -29 th March 2008	<ul style="list-style-type: none"> Manuscript Writing Venue: Hotel Seri Malaysia, Port Dickson Organized by Enzyme and Microbial Technology Group
4 th -5 th June 2007	<ul style="list-style-type: none"> Publishing for Postgraduate Speaker: Dr. Vijay Kumar Mallan Venue: Dewan Persidangan, Center for External Education, Universiti Putra Malaysia Organized by School of Graduate Studies

TEACHING RESPONSIBILITIES

Year	Course (Code and Credit Hours)	Number of Students	Contact Hours	Remarks
Semester 3 (2016/2017)	OrganicChemistry ASC 0303 3(2+1)	46 (Group 17)	28H-Lecture 21H- Experimental 14H-Tutorial 3H-Assignment	Lecturer
Semester 2 (2016/2017)	Physical Chemistry	45 (Group 8)	28H-Lecture 21H-	Lecturer

	ASC 0302 3(2+1)		Experimental 14H-Tutorial 3H-Assignment	
Semester 3 (2015/2016)	Organic Chemistry (ASC 0303) 3(2+1)	43 (Group 1)	28H-Lecture 21H- Experimental 14H-Tutorial 3H-Assignment	Lecturer
	Organic Chemistry (ASC 0303) 3(2+1)	38 (Group 13)	28H-Lecture 21H- Experimental 14H-Tutorial 3H-Assignment	Lecturer
Semester 1 (2015/2016)	Inorganic Chemistry (ASC 0301) 3(2+1)	43 (Group 7)	28H-Lecture 21H- Experimental 14H-Tutorial 3H-Assignment	Lecturer
	Inorganic Chemistry (ASC 0301) 3(2+1)	43 (Group 12)	28H-Lecture 21H- Experimental 14H-Tutorial 3H-Assignment	Lecturer
Semester 1 (Fast Tract: 2015)	Physical Chemistry (ASC 0302) 3(2+1)	20 (Group 2)	28H-Lecture 21H- Experimental 14H-Tutorial 3H-Assignment	Lecturer
	Physical Chemistry (ASC 0302) 3(2+1)	17 (Group 4)	28H-Lecture 21H- Experimental 14H-Tutorial 3H-Assignment	Lecturer
Semester 1	Inorganic	40	28H-Lecture	Lecturer

(2014/2015)	Chemistry (ASC 0301) 3(2+1)	(Group 11)	21H- Experimental 14H-Tutorial 3H-Assignment	
	Inorganic Chemistry (ASC 0301) 3(2+1)	40 (Group 13)	28H-Lecture 21H- Experimental 14H-Tutorial 3H-Assignment	Lecturer
Semester 3 (2013/2014)	Organic Chemistry ASC 0303 3(2+1)	35 (Group 3)	28H-Lecture 21H- Experimental 14H-Tutorial 3H-Assignment	Lecturer
	Organic Chemistry (ASC 0303) 3(2+1)	36 (Group 16)	28H-Lecture 21H- Experimental 14H-Tutorial 3H-Assignment	Lecturer
Semester 1 (2013/2014)	Inorganic Chemistry (ASC 0301) 3(2+1)	40 (Group 11)	28H-Lecture 21H- Experimental 14H-Tutorial 3H-Assignment	Lecturer
	Inorganic Chemistry 3(2+1) (ASC 0301)	43 (Group 15)	28H-Lecture 21H- Experimental 14H-Tutorial 3H-Assignment	Lecturer
Semester 3 (2012/2013)	Organic Chemistry (ASC 0303) 3(2+1)	46 (Group 2)	28H-Lecture 21H- Experimental 14H-Tutorial 3H-Assignment	Lecturer

	Organic Chemistry (ASC 0303) 3(2+1)	44 (Group 4)	28H-Lecture 21H-Experimental 14H-Tutorial 3H-Assignment	Lecturer
Semester 2 (2011/2012)	Physical Chemistry ASC 0302 3(2+1)	41 (Group 2)	28H-Lecture 21H-Experimental 14H-Tutorial 3H-Assignment	Lecturer
Semester 3 (2010/2011)	Organic Chemistry (ASC 0303) 3(2+1)	40- (Group 1)	28H-Lecture 21H-Experimental 14H-Tutorial 3H-Assignment	Lecturer
	Organic Chemistry (ASC 0303) 3(2+1)	40 (Group 3)	28H-Lecture 21H-Experimental 14H-Tutorial 3H-Assignment	Lecturer
Semester 2 (2010/2011)	Physical Chemistry ASC 0302 3(2+1)	46 (Group 1)	28H-Lecture 21H-Experimental 14H-Tutorial 3H-Assignment	Lecturer
	Physical Chemistry (ASC 0302) 3(2+1)	43 (Group 3)	28H-Lecture 21H-Experimental 14H-Tutorial 3H-Assignment	Lecturer

SUPERVISION OF STUDENTS (RESEARCH)

a) Main Supervision-Postgraduate

No	Name	Research Title	Program	Year	Affiliation
1.	Siti Fatihah Balqis binti Jamaludin	Optimization and Characterization of Functional Cosmetic Properties in Hylocereus polyrhizus using Response Surface Methodology	Msc with Thesis	2016- present	Halal Product Research Institute, Universiti Putra Malaysia
2.	Sarah Idris	Detection of Harmful Ingredients in Cosmetic Products in Malaysia	PhD with Thesis	2016- present	Halal Product Research Institute, Universiti Putra Malaysia
3.	Nur Royhaila Mohamad (GS43713)	Detection and Profiling of Alcohol Ingredients in Cosmetic Products around Malaysia	PhD with Thesis	2015- present	Halal Product Research Institute, Universiti Putra Malaysia
4.	Nur Illiyin Mohamed Roslan (GS44578)	Modeling and Optimization of Engkabang-Palm Olein Blend as a Cocoa Butter Substitute using Statistical Experimental Designs	PhD with Thesis	2015- present	Halal Product Research Institute, Universiti Putra Malaysia
5.	Khurul Ain binti Mohamed	Modelling and Optimization of <i>Phaleria macrocarpa</i>	Master with Thesis	2015- present	Halal Product Research

	Mahzir	Formulation for Cosmeceutical Purpose			Institute, Universiti Putra Malaysia
6.	Ramya Vijayakumar (GS44383)	Optimization of Antioxidant Properties of Pitaya (<i>Hylocereus polyrhizus</i>) Peels using Statistical Experimental Design	Master with Thesis	2015-present	Halal Product Research Institute, Universiti Putra Malaysia
7.	Asiah binti Abdullah (GS44636)	Synthesis and Optimization of Pitaya Seed Oil Esters Formulation for Cosmeceutical Purpose	PhD with Thesis	2015-present	Department of Chemistry, Faculty of Science, Universiti Putra Malaysia
8.	Nur Fauwizah binti Azahar	Development of phytochemical screening of <i>Curcuma zedoaria</i> leaves extract for anti-aging, and anti-oxidant purposes	Master with Thesis	2015-present	Department of Chemistry, Faculty of Science, Universiti Putra Malaysia
9.	Suhana Mustafa	Detection and Profiling of Porcine Adulteration in Cosmetic Products around Kuwait	Master with Thesis	2014-present	Halal Product Research Institute, Universiti Putra Malaysia
10.	Rabiatul Adawiyah Ramli	<i>Curcuma Mangga</i> Nano-Cosmeceuticals As Anti Aging And Antioxidant Using D-Optimal Mixture Design	Master with Thesis	2014-present (writing thesis)	Halal Product Research Institute, Universiti Putra

					Malaysia
11.	Farrah Payyadhah binti Borhan (GS37587)	Development of Soybean Waste Protein Formulation for Stratum Corneum Application	PhD with Thesis	2013-present (writing thesis)	Halal Product Research Institute, Universiti Putra Malaysia
12.	Nor Zuliana binti Yusof	Development of Oil-in-water (o/w) Emulsion with Oil Palm Leaves (<i>Elaeis guineensis</i>) extract	Master with Thesis	2013-present	Halal Product Research Institute, Universiti Putra Malaysia
13.	Nur Izzati binti Mohamad Zen (GS37585)	Development of Soybean Waste Nutrition Formulation for Dietary Supplement	Master with Thesis	2013-2015 (Graduated)	Halal Product Research Institute, Universiti Putra Malaysia
14.	Norsuhaili binti Kamairudin (GS37771)	Formation and Characteristics of Halal Natural Lips Product from <i>Hylocereus Polyrhizus</i>	Master with Thesis	2013-2015 (Graduated)	Halal Product Research Institute, Universiti Putra Malaysia
15.	Siti Husnaa Mohd Taib (GS30424)	Formulation Optimization of Swiftlet Nest-based Nanocosmeceuticals	Master with Thesis	2011-2015 (Graduated)	Halal Product Research Institute, Universiti Putra Malaysia

b) Co-supervision-postgraduate

No	Name	Research Title	Program	Year	Affiliation
	Nurul Hafizah Zainal Abidin (GS45031)	Critical Phenomena on Convective Stability in Binary Fluid Mixture	PhD	2016-present	Institut Penyelidikan Matematik, Universiti Putra Malaysia
	Masyitah Amat Sairin (GS42354)	Spectral Permittivity Characterization Correlating Fatty Acid Methyl Ester (FAME) Composition for Lard Detection in Edible Oils	Master	2016-present	Halal Product Research Institute, Universiti Putra Malaysia
	Siti Norhawani Harun (GS30779)	Impact of Nanosystem Efficient in Blood Brain Barrier Translocations Utilizing Emulsion Loaded with Cefuroxime for Treatment of Meningitis	PhD	2011-present	Faculty of Medicine and Health Sciences, Universiti Putra Malaysia
	Norazlin Mat Husin (GS30420)	Development of Halal Lipstick with Protection Properties	Master with Thesis	2011-2015 (Graduated)	Halal Product Research Institute, Universiti Putra Malaysia
	Azila binti Abdul Karim (GS30038)	Development of Anti-wrinkles Cosmeceuticals Cream from Cocoa Pods	PhD	2011-2015 (Graduated)	Halal Product Research Institute, Universiti Putra Malaysia
	Zafarizal Aldrin Bin	Preparation, Characterization and	PhD	2011-present	Department of Chemistry,

Azizul Hasan	Efficacy of Palm Tocotrienol Nanoemulsion				Faculty of Science, Universiti Putra Malaysia
Nur Nadiah Abdul Rashid	Production Of Anti-Cancer Drug Nano-Emulsions Using Betulinic Acid	Master with Thesis	2011-2014 (graduated)		Department of Chemistry, Faculty of Science, Universiti Putra Malaysia
Syafinaz Zainol	Developing Nanosystem Utilizing Emulsion Loaded with Anti Parkinson Drug For Parenteral Delivery	Master with Thesis	2011-2014 (graduated)		Department of Chemistry, Faculty of Science, Universiti Putra Malaysia
Rohana binti Othman	Development of Aerosol-Insecticides Formed with Palm Oil-Based Materials	Master with Thesis	2011-2015 (graduated)		Department of Chemistry, Faculty of Science, Universiti Putra Malaysia

c) Main Supervision-Undergraduate

No	Name	Research Title	Program	Year	Affiliation
1.	Nura Adila Shariff	Phase Behaviour Study of Aleo vera using non ionic surfactant	Bac of Sci. with Edu (hons)- Chemistry	2016/2017	Department of Chemistry, Faculty of Science, Universiti Putra, Malaysia
2.	Wan Nadia Farisha Wan Mazlan (175420)	Phase Behaviour Study of Oryza Saliva using non ionic surfactant	Bac of Sci (hons)- Petroleum Chemistry	2016/2017	Department of Chemistry, Faculty of Science, Universiti Putra, Malaysia
3.	Nur Awatif Hashim (175439)	Phase Behavior Study of <i>Caesalpinia sappan</i> using non ionic surfactant	Bac of Sci (hons)- Industrial Chemistry	2016/2017	Department of Chemistry, Faculty of Science, Universiti Putra, Malaysia
4.	Umami Husna Abdullah (173613)	Optimization of Shortening using Palm Oil Fraction using Experimental Design	Bac of Sci (hons)- Chemistry	2016/2017	Department of Chemistry, Faculty of Science, Universiti Putra, Malaysia
5.	Nor Rasidah binti Khamis (169510)	Modeling of Moisturizing Soap Containing Pitaya Seed (<i>Hylocereus polyrhizus</i>) using Artificial Neural Network (ANN)	Bac of Sci (hons)- Chemistry	2015/2016	Department of Chemistry, Faculty of Science, Universiti Putra, Malaysia
6.	Fazilah Farhana binti Abd Aziz (168168)	Modeling of Clay Facial Scrub Containing Pitaya (<i>Hylocereus polyrhizus</i>) Seed Oil using Artificial Neural Network	Bac of Sci (hons)- Chemistry	2015/2016	Department of Chemistry, Faculty of Science, Universiti Putra, Malaysia

	(ANN)				
7. Siti Fatihah Balqis binti Jamaludin (170163)	Modeling of Clay Body Wash Containing Pitaya (<i>Hylocereus polyrhizus</i>) Seed Oil using Artificial Neural Network (ANN)	Bac of Sci (hons)- Chemistry	2015/2016	Department of Chemistry, Faculty of Science, Universiti Putra, Malaysia	
8. Nur Fazreen Atila Hashim (163295)	Optimization of Clay Facial Scrub Containing Pitaya Seed Oil using D- Optimal Mixture Experimental Design	Bac of Sci (hons)- Chemistry	2014/2015	Department of Chemistry, Faculty of Science, Universiti Putra, Malaysia	
9. Nur Amira Hanis Pilus (161992)	Optimization of Moisturizing Soap Containing Pitaya Seed using D- Optimal Mixture Experimental Design	Bac of Sci (hons)- Chemistry	2014/2015	Department of Chemistry, Faculty of Science, Universiti Putra, Malaysia	
10 Khalijah Talha (164754)	Optimization of Moisturizing Clay Soap Containing Pitaya Seed Oil using D-Optimal Mixture Experimental Design	Bac of Sci (hons)- Chemistry	2014/2015	Department of Chemistry, Faculty of Science, Universiti Putra, Malaysia	
11 Syarifah Nurhafizah Lukman (163455)	Optimization of Clay Body Wash Containing Pitaya Seed Oil using D- Optimal Mixture Experimental Design	Bac of Sci (hons)- Chemistry	2014/2015	Department of Chemistry, Faculty of Science, Universiti Putra, Malaysia	
12 Fazilawati binti Makmur (156564)	Phase Behavior Study of Swiftlet Nest using Non Ionic Surfactants with Sun Flower Oil	Bac of Sci (hons)- Industrial Chemistry	2013/2014	Department of Chemistry, Faculty of Science, Universiti Putra, Malaysia	
13 Nurul	Phase Behavior	Bac of Sci	2013/2014	Department of	

	Shakirah Arifin	Study of Vegetable Oils with Tween85 and Tween80 in Emulsion System	(hons)- Industrial Chemistry		Chemistry, Faculty of Science, Universiti Putra, Malaysia
14	Rawaida Liyana binti Razalli (156298)	Formulation Optimization of Swiftlet Nest using Non Ionic Surfactant with Jojoba Oil	Bac of Sci (hons)- Industrial Chemistry	2013/2014	Department of Chemistry, Faculty of Science, Universiti Putra, Malaysia
15	Siti Zulaikha binti Adisah (156514)	Phase Behavior Study of Swiftlet Nest using Non Ionic Surfactants with Virgin Coconut Oil	Bac of Sci (hons)- Industrial Chemistry	2013/1014	Department of Chemistry, Faculty of Science, Universiti Putra, Malaysia
16	Siti Nur Hazwani Sulaiman	High Yield Lipase-Catalyzed Synthesis Of Pitaya Seed Oil Esters	Bac of Sci. with Edu (hons)- Chemistry	2011	Department of Chemistry, Faculty of Science, Universiti Putra, Malaysia

THESIS EXAMINER

No	Name	Research Title	Program	Year	Affiliation
1.	Hur Binti Munawar Kabir Mohd	Interaksi Vesikel Lipid Dipalmitoilfosfatidilkolina dan Vesikel Lipid Campuran Dipalmitoilfosfatidil Kolina/Serina dengan Nanozarah SiO ₂ , TiO ₂ dan Fe ₃ O ₄	MSc of Science	2017	Faculty of Science and Technology, National University Malaysia
2.	Marliana binti Azir	Detection of Animal Fats Adulteration in Cocoa	Msc: Halal	2017	Halal Products research

		Butter using Analytical Techniques	Product Analysis		Institute,Universiti Putra Malaysia
3.	Sharifah Nurul Izzati Syed Ahmad Kamal (158160)	Chemical Constituents of Calophyllum Inophyllum	Bac of Sci (hons)- Chemistry	2015-2016	Department of Chemistry, Faculty of Science, Universiti Putra Malaysia
4.	Nur Aziera Hood (170574)	Synthesis and Characterization of Thiourea-Modified Poly(Acrylonitrile-Co-Itaconic Acid) as Non-woven Fibers	Bac of Sci (hons)- Chemistry	2015-2016	Department of Chemistry, Faculty of Science, Universiti Putra, Malaysia
5.	Nur Shahidah Shahidan (170084)	Optimization of Nanoemulsion Formulation Containing Ibuprofen using Experimental Design (MED)	Bac of Sci (hons)- Chemistry	2015-2016	Department of Chemistry, Faculty of Science, Universiti Putra Malaysia
6.	Nur Alia Zakaria	Chemical Constituent and Antioxidant Activity of Mellicope Glabra (<i>Rutaceae</i>)	Bac of Sci (hons)- Chemistry	2014-2015	Department of Chemistry, Faculty of Science, Universiti Putra, Malaysia
7.	Phang Eng Khai	Optimization of Palm Kernel Oil Ester-based Nanoemulsions Containing Sodium Diclofenac with Xanthan Gum by using D-Optimal Experimental Design	Bac of Sci (hons)- Chemistry	2014-2015	Department of Chemistry, Faculty of Science, Universiti Putra, Malaysia
8.	Chee Wei Jian	Optimization of Extraction Method for Antioxidant Activity of Clinacanthus	Bac of Sci (hons)- Chemistry	2014-2015	Department of Chemistry, Faculty of

		Nutans Lindau Leaves by Response Surface Methodology			Science, Universiti Putra, Malaysia
9.	Kong Wei Yoong	Optimization of Hyrocortiosone-Loaded Nanoemulsion by Rheology Studies	Bac of Sci (hons)- Chemistry	2014- 2015	Department of Chemistry, Faculty of Science, Universiti Putra, Malaysia

MEDIA COVERAGES IN TELEVISIONS AND NEWS PAPERS

- 1) Sin Chew Daily, 26th January 2017, Thursday, Expert: Plastics have ability to resist against heat at different temperature.



- 2) TV9 channel, Berita 12 Tengahari (News at 12pm), 23rd of April 2015, Thursday
-Press conference about Naga Essence
- 3) NTV7 channel, Berita Edisi 1 Tengahari (News at 1pm), 26th of April 2015, Sunday
-Press conference about Naga Essence

- 4) Kosmo, 30th of December 2015, Wednesday, page 34

34 **INFINITI**
INOVASI • SAINS • GAJET

KOSMO! RABU 30 DISEMBER 2015

Penyelidik UPM hasilkan kosmetik buah naga

INOVASI

BUAH naga mungkin antara buah yang kurang diberikan perhatian dalam bidang kecantikan di negara ini.

Namun, sekumpulan penyelidik dari Universiti Putra Malaysia (UPM) merintis perubahan apabila penghasilan pelbagai produk kosmetik berasaskan buah itu baru-baru ini.

Pengkaji-pengkaji dari Pusat Asasi Sains Pertanian dan Jabatan Kimia, Fakulti Sains UPM serta Institut Penyelidikan Produk Halal UPM itu menghasilkan produk krim antipenuaan, gincu pelembap, sabun, skrub badan dan cecair pencuci badan atau tangan.

Pensyarah dan Ketua penyelidik, Dr. Siti Salwa Abd. Ghani berkata, penyelidikan berkaitan produk itu bermula sejak lima tahun lalu dan kini, usaha dilakukan untuk mempelbagaikan produk tersebut.

"Pada masa ini, kami sedang berusaha membuat kajian untuk menghasilkan pati buah naga dalam bentuk ester berbanding sebelum ini yang didapati dalam bentuk minyak.

"Kami mungkin boleh menghasilkan pula produk pemakaian segera seperti serum ia akan dihasilkan dalam tempoh setahun atau dua tahun," katanya ketika dihubungi *Kosmo!* baru-baru ini.

Projek inovasi itu berjaya merangkul pelbagai anugerah memperoleh pingat gangsa pada Ekspo Penyelidikan dan Ciptaan Institusi Pengujian Tinggi Antarabangsa (Teepta) 2015.

Siti Salwa berkata, apa yang amat menakjubkan ialah potensi buah naga dalam bidang kecantikan begitu terserlah terutamanya keupayaan buah itu menawarkan pelindung sinaran ultra ungu (UV) bertaraf lima bintang dan kandungan antioksidan yang tinggi.

"Ia mampu menawarkan pelindung UVA bertaraf lima bintang berbanding beberapa tumbuhan lain dalam kajian kami. Terdapat tiga jenis UV iaitu UVA, UVB dan UVC.

"Antara ketiga-tiga jenis UV ini, UVA yang berupaya masuk ke dalam kulit dan boleh menyebabkan masalah dalam kulit seperti kanser.

"Sebelum ini, produk kecantikan di pasaran kurang menitikberatkan perlindungan UVA berbanding UVB dan UVC.

"Kami juga mendapati, ia membantu dalam aspek antipenuaan dan pelembap. Testimoni selama tiga jam terhadap pemakaian 20 orang pelajar dan warga UPM mendapati, kelembapan kulit mereka meningkat," katanya. Bagaimanapun, Siti Salwa enggan mendedahkan bahagian mana pada buah itu yang dijadikan kosmetik.

Beliau berkata, produk-produk itu sudah dipatenkan tetapi belum dikilang dan dikomersialkan pada masa ini.

"Kami menerima banyak panggilan telefon daripada orang ramai mengenai produk-produk ini.

"Namun, ia belum dikilangkan dan dijual di pasaran," ujarnya.

SITI SALWA bersama produk-produk kosmetik daripada buah naga.

2015-12-30 08:44:57

- 5) Sin Chew Daily, 16th December 2015, Wednesday, (Effect of using Vape) page 14

強宣導工作 禁煙 功倍



茜蒂莎尔瓦医生认同，
抽吸电子烟可能比传统香烟
更加危害健康。

ROKOK ELEKTRONIK (VAPE)

BAHAYA



APAKAH ITU ROKOK ELEKTRONIK?
Kementerian Kesihatan Malaysia mendefinisikan rokok elektronik sebagai peranti elektronik yang mengandungi cecair campuran seperti propylene glycol, vegetable glycerin, pewarna makanan dan nikotin. Terdapat beberapa ubat yang dikenali sebagai e-liquid, e-juice dan e-liquid yang dijual sebagai peranti elektronik yang boleh mengandungi nikotin.

KOMPONEN UTAMA ROKOK ELEKTRONIK

- Ketril (Cartridge): Mengandungi cecair propylene glycol, vegetable glycerin dan nikotin.
- Atomizer (Atomizer): Bahagian yang memulutkan cecair kepada wap.
- Bateri (Battery component): Sumber kuasa.

Kandungan	ROKOK ELEKTRONIK	Wap
Nikotin	Ada	Tiada
Propylene glycol (PG)	Ada	Ada
Vegetable glycerin (VG)	Ada	Ada
Bahan pewarna dan perasa	Ada	Ada

INFO
Walaupun vape didakwa tidak mengandungi nikotin, namun cecair ini semua yang dijual berkemungkinan besar mengandungi nikotin, dadah atau bahan-bahan terlarang yang berbahaya.

KESAN SAMPINGAN NIKOTIN



醫生：添加各種化學物品 電子煙更危害健康

博 特大学讲师兼化学系博士茜蒂莎尔瓦医生认同，抽吸电子烟可能比传统香烟更加危害健康。

她表示，电子烟的成分种类繁多。群众只要上网搜索就可以找到电子烟各种成分，而电子烟的最主要的成分却还是尼古丁。不过，茜蒂莎尔瓦医生却不赞同用电子烟取代传统香烟。

她说：“虽然电子烟和传统香烟一样包含尼古丁，但传统香烟却是由天然的烟草制成；相比之下，电子烟除了尼古丁外，还添加了各种化学物品，而如电子烟里的味道就是化学实验所制造出来的东西，所以抽吸电子烟反而比传统香烟更加不好。”

茜蒂莎尔瓦也认同，电子烟可能导致抽吸者罹患俗称“爆米花肺” (Popcorn Lung) 的闭塞性细支气管炎 (bronchiolitis obliterans)。

茜蒂莎尔瓦解释，电子烟里的味道成分和香水的成分其实差不多。她说：“香好，但此前没有人对此作出详细的研究，所以我们不知道香水对体会造成的危害是怎样。而电子烟里的香精成分却是被直接吸入体内，就变得更加危险了。”

罕見職業 爆米花



6) Harian Metro, 11th of August 2015, Tuesday, page V4 (Bahagian Agro/ Agro Part)

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Buah naga dalam bidang KOSMESEUTIKAL

Mempunyai kandungan tinggi asid lemak poli tidak tepu, sebatian antioksidan



Oleh Mohamad Hussin
mohamad_hussin@hmetro.com.my

Kebiasaannya, buah naga atau nama saintifiknya pitaya banyak digunakan dalam produk makanan kerana mempunyai kandungan bahan aktif antioksidan yang amat tinggi, selain dapat membantu menyihatkan tubuh badan.

Menyedari kebaikan dan khasiat buah naga, pensyarah dari Jabatan Kimia, Fakulti Sains, Universiti Putra Malaysia (UPM), Dr Siti Salwa Abd Gani membuat inovasi baru berasaskan buah naga dengan menghasilkan rangkaian produk kecantikan.

Ia juga antara produk pertama di negara ini yang menggunakan buah naga dalam bidang kosmeseutikal dinamakan Naga Essence.

Dr Siti Salwa berkata, Naga Essence diperbuat daripada bahan aktif berasaskan buah naga dan ia diproses dalam beberapa jenis produk penjagaan



ANTARA produk kosmeseutikal yang dihasilkan melalui buah naga

kulit termasuk produk emulsion bersaiz nano.

Bellau berkata, ia memberi kesan amat bagus untuk kulit manusia kerana buah naga mempunyai kandungan tinggi asid lemak poli tidak tepu (linoleik dan asid linolenik) dan sebatian antioksidan (fenolik dan flavonoid).

"Ia membentuk lapisan di atas kulit (di atas stratum corneum) dan menghalang penyerapan sinaran UVA ke dalam kulit seterusnya dapat

mengurangkan pembentukan radikal bebas (meneutralkan radikal bebas, melembapkan kulit dan menyuburkan kolagen.

"Beberapa produk kosmeseutikal sudah berjaya dihasilkan menggunakan Naga Essence seperti gincu pelembab, sabun, skrub dan cecair pencuci badan yang menyuburkan kulit.

"Semua produk yang dihasilkan menggunakan statistik 'design of expert' dan dibangunkan di makmal menerusi ka-

"Ia dapat melembapkan kulit, menghalang pembentukan radikal bebas, menghalang penembusan UVA ke dalam kulit dan melambatkan pembentukan kedutan"
Dr Siti Salwa

dah tenaga pengurangan rendah dan tinggi. "Design of expert terdiri daripada 'response sur-



ANTARA anugerah yang diterima

face methodology', 'd-optimal mixture design' dan 'artificial neural network software' yang dapat menjimatkan masa, tenaga serta kos dalam membangunkan produk penyelidikan berkenaan," katanya selepas pelancaran di

UPM, baru-baru ini. Menurutnya, kelebihan yang terdapat pada inovasi ini selain dijadikan sebagai antipenuaan, ia boleh digunakan mereka yang menghadapi masalah kulit seperti kulit sensitif, kekejangan serta kedutan.

"Ia dapat melembapkan kulit, menghalang pembentukan radikal bebas, menghalang penembusan UVA ke dalam kulit dan melambatkan pembentukan kedutan.

"Amat sesuai digunakan di negara Khatulistiwa termasuk negara ini, negara empat musim dan Timur Tengah.

"Ia juga baik untuk diaplikasikan di dalam bidang kosmeseutikal, Naga Essence turut berprestasi di dalam bidang farmaseutikal," katanya.

Dr Siti Salwa yang juga pensyarah di Pusat Asas Sains Pertanian dan Penyelidikan bersekutu di Institut Penyelidikan Produk Halal, UPM, mempunyai 12 pelajar di bawah penyeselannya yang terdiri dari pada pelajar peringkat doktor falsafah, sarjana dan sarjana muda setakat ini.



Dr Siti Salwa (tiga dari kiri) bersama pelajar-pelajarnya yang menghasilkan produk Naga Essence.

Teknologi kosmesutikal berasas buah naga pertama di Malaysia

Oleh Hafiza Hussin
Foto Marina Ismail



SERDANG – Penyelidik Universiti Putra Malaysia (UPM), Dr. Siti Salwa Abd. Gani menghasilkan produk kosmesutikal iaitu Naga Essence yang pertama di Malaysia yang berasaskan daripada buah naga.

Ketua penyelidik Dr. Siti Salwa daripada Pusat Asasi Sains Pertanian dan Jabatan Kimia, Fakulti Sains berkata produk itu berasaskan tumbuhan yang diformulasikan di dalam produk penjagaan kulit. Naga Essence boleh digunakan dalam pelbagai produk kosmetik dan farmasutikal. Ia juga boleh digunakan begitu sahaja ke atas kulit.

“Antara produk kosmesutikal yang berjaya dihasilkan menggunakan Naga Essence adalah krim anti penuaan, gincu pelembab, sabun, scrub badan dan cecair pencuci badan atau tangan,” katanya.

Tambah beliau, produk ini boleh digunakan oleh individu yang menghadapi masalah kulit seperti kekeringan dan kedutan kerana ia dapat melembapkan kulit, menghalang pembentukan radikal bebas, menghalang penembusan UVA dalam kulit serta melambatkan pembentukan kedutan.

“Ini sangat ideal untuk produk kosmesutikal kerana komposisinya yang sangat baik seperti kandungan tinggi asid lemak poli tak tepu (asid linoleik dan asid linolenik) dan sebatian antioksidan (fenolik dan flavonoid),” katanya.

Dr. Siti Salwa berkata kebiasaannya buah naga atau nama saintifiknya *Hylocereus Polyrrhizus* dan *Hylocereus Undatus* sering digunakan

dalam produk makanan kerana ia mempunyai kandungan dan bahan aktif antioksidan yang sangat tinggi yang dapat membantu menyihatkan tubuh badan.

“Semua produk yang dihasilkan menggunakan statistik Design of Expert dan dibangunkan di makmal menggunakan kaedah tenaga penyeragaman rendah dan tinggi. Selain baik untuk diaplikasikan di dalam bidang kosmesutikal, Naga Essence berpotensi di dalam bidang farmasutikal,” ujar beliau.

Design of Expert terdiri daripada Response Surface Methodology, D-Optimal Mixture Design dan Artificial Neural Network software yang dapat menjimatkan masa, tenaga dan kos dalam membangunkan produk penyelidikan tersebut.

Beliau menjalankan penyelidikan itu sejak tahun 2011 dan sehingga kini masih meneruskannya bagi mencari penemuan baharu dengan dibantu oleh Prof. Dr. Mahiran Basri dan Prof Madya Dr Rosnah Shamsudin. Penyelidikan ini juga dijalankan di Institut Penyelidikan Produk Halal, UPM.

Pelajar PhD, Hasmah Bidin, Pelajar Master Norsuhaili Kamairuddin, Suhana Mustafa dan pelajar Bachelor Nur Fareen Atila Hashim, Nur Amira Hanis Pilus, Syarifah Nurhafizah Lukman dan Khalijah Talha turut menjayakan penyelidikan itu.

Maklumat lanjut hubungi Hafiza Hussin, HP: 012-6550933.

UPM hasilkan pati buah naga atasi masalah kulit

Serdang: Penyelidik Universiti Putra Malaysia (UPM) berjaya menghasilkan pati berasaskan buah naga, yang pertama dan halal di negara ini sebagai penyelesaian masalah kulit.

Produk dikenali 'Naga Essence' itu adalah bahan aktif berasaskan tumbuhan yang diformulasikan dalam produk penjagaan kulit dan mampu menyelesaikan masalah penuaan dan kekeringan kulit.

Pensyarah Kanan Pusat Asasi Sains Pertanian dan Jabatan Kimia UPM, Dr Siti Salwa Abd Gani, berkata pati itu sangat ideal untuk produk kosmetikal kerana komposisinya mengandungi asid lemak poli tidak tepu dan sebatian antioksidan.

Bellau yang juga ketua penyelidikan, berkata antara produk dihasilkan menggunakan Naga Essence ialah krim anti penuaan, gincu pelembap, sabun, scrub ba-

dan dan cecair badan serta tawangan.

Banyak kelebihan

"Naga Essence ini mempunyai banyak kelebihan termasuk melambatkan penuaan kulit, melindungi kulit, perlindungan tinggi terhadap sinaran ultra ungu A selain menyihatkan rambut dan dia di sini, semalam.

Yang turut hadir, Timbalan Pengarah Bahagian Edu-Park, Putra Science Park UPM, Prof Madya Dr Faridah Omaruz Zaman dan Dekan Fakulti Sains UPM, Prof Dr Zainal Abidin Talib.

Siti Salwa berkata, beliau membangunkan produk berasaskan buah naga kerana buah itu mempunyai kandungan dan bahan aktif antioksidan sangat tinggi yang dapat membantu menyihatkan tubuh.

"Kami menjalankan penyelidikan sejak 2011 sehingga tahun ini dengan kos kira-kira RM300,000 menggunakan geran disediakan UPM. Ia (penyelidikan) akan diteruskan lagi kerana kami bercadang untuk menghasilkan produk makanan tambahan menggunakan Naga Essence," katanya. Sementara itu, Faridah berkata, sehingga kini lebih 1,600 produk dan teknologi UPM mendapat perlindungan harta intelek. Beliau berkata, daripada jumlah itu, sebanyak 77 harta intelek sudah dikomersialkan yang menjana hasil iualan mencecah RM40 juta dengan nilai pulangan syeran perlesenan dan royalti bernilai RM4 juta.

"Nisbah pengkomersialan itu adalah kejayaan yang membanggakan jika dibandingkan dengan universiti penyelidikan lain," katanya.



Dr Siti Salwa (duduk) bersama pelajar yang menghasilkan produk Naga Essence pada sidang media di Fakulti Sains, UPM, semalam. (MONITA ABDUL GHANI/BH)



SITI SALWA ABD. GANI (empat dari kiri) dan **Zainal Abidin Talib** (lima dari kiri) bersama penyelidik UPM memperkenalkan hasil produk kosmesutikal 'Naga Essence' yang pertama di Malaysia, dalam sidang akhbar di Kuala Lumpur, semalam.

'Naga Essence' produk kosmetik guna buah naga

KUALA LUMPUR 22 April - Sekumpulan penyelidik Universiti Putra Malaysia (UPM) hari ini memperkenalkan beberapa produk baharu kosmesutikal iaitu 'Naga Essence' yang berasaskan biji buah naga.

Ketua Penyelidik Pusat Asasi Sains Pertanian dan Jabatan Kimia Fakulti Sains UPM, Dr. Siti Salwa Abd. Gani berkata, penghasilan itu merupakan yang pertama di Malaysia kerana menggunakan buah pitaya atau naga, malah nisbah perlindungan sinaran ultra ungu A (UVA) berbanding ultra ungu B (UVB) adalah dalam kategori 'ultra' 1.390 iaitu di antara ratio 0.91 dan ke atas yang memberi kesan terbaik kepada pengguna.

"Biji buah naga itu sangat ideal untuk produk kosmetik kerana mengandungi asid lemak poli tak tepu yang tinggi dan sebatian antioksidan.

"Naga Essence ini sesuai digunakan oleh individu yang menghadapi

masalah kulit seperti kekeringan dan kedutan kerana ia dapat melembapkan kulit, menghalang pembentukan radikal bebas, menghalang penembusan ultraungu A (UVA) ke dalam kulit serta melambatkan pembentukan kedutan," katanya dalam sidang akhbar di sini hari ini.

Produk-produk yang berjaya dihasilkan adalah krim antipenuaan, gincu pelembap, sabun, skrub badan dan cecair pencuci badan atau tangan yang bertindak menyuburkan kulit.

Menurut Siti Salwa, kos bagi menghasilkan produk tersebut adalah kira-kira RM300,000 yang diperoleh daripada geran UPM iaitu Skim geran penyelidikan universiti (RUGS) bagi tempoh 2011 hingga 2013 dan PUTRA 2013-2015 sejak kajian dimulakan pada tahun pertamanya.

Katanya, antara penyelidik yang bersama-sama menghasilkan

produk tersebut ialah pelajar doktor falsafah (PhD), Hasmah Bidin; pelajar ijazah sarjana, Norsuhaili Kamairuddin; Suhana Mustafa dan pelajar ijazah sarjana muda, Nur Fareen Atila Hashim; Nur Amira Hanis Pilus; Syarifah Nurhafizah Lukman serta Khalijah Talha.

Penyelidikan itu turut dibantu oleh Prof. Dr. Mahiran Batri dan Prof. Madya Dr. Rosnah Shamsudin.

Siti Salwa menjelaskan, sebanyak 33 kilogram buah naga diperlukan bagi mendapatkan sekilogram biji dan seterusnya 300 gram Naga Essence.

Siti Salwa memberitahu, pihaknya masih mencari pelabur yang ingin mengkomersialkan produk itu.

Sementara itu, Dekan Fakulti Sains, Prof. Dr. Zainal Abidin Talib memberitahu, bagi peringkat fakulti secara puratanya mereka telah mempatenkan kira-kira 10 hingga 15 paten setiap tahun.

sains

Sedia di komersialkan

PRODUK Naga Essence, mampu menembusi pasaran luar negara kerana keberkesanannya sebagai produk yang memiliki ciri-ciri antipenuaan, pelembap dan perlindungan sinaran ultra ungu A.

Ia sangat ideal untuk produk kosmesutikal yang berkhasiat dan bermutu tinggi kerana komposisinya kandungan tinggi asid lemak poli tidak tepu dan sebatian antioksidan yang amat baik.

Kajian membuktikan Naga Essence boleh digunakan oleh mereka yang menghadapi masalah kulit seperti kekeringan dan kedutan kerana dapat melembapkan kulit selain menghalang radikal bebas, menghalang penembusan ultra ungu A ke dalam kulit dan melambatkan pembentukan kedutan.

Produk tersebut juga amat sesuai digunakan semasa berada di negara kering seperti negara empat musim.

Menurut Dr. Siti Salwa Abd. Ghani, produk tersebut kini sedia untuk dikomersialkan. Justeru pihaknya sedang berusaha mencari pelabur yang berminat untuk bekerjasama dalam pengkomersialan produk tersebut.

"Buat masa ini, kami di peringkat awal pengkomersialan dan sedang mencari syarikat-syarikat yang berminat."

"Malah kami yakin, produk ini akan mendapat permintaan tinggi dalam kalangan masyarakat yang kini lebih mengambal berat berhubung soal kesihatan dan kecantikan," jelasnya.

Beliau juga yakin produk tersebut tidak akan mengalami masalah lebih permintaan kerana mendapat kerjasama daripada Jabatan Pertanian yang membekalkan sumber utama iaitu buah naga melalui anak-anak syarikatnya.

Dalam pada itu, beliau memberitahu, kajian berkaitan kebaikan buah naga akan diteruskan memandangkan manfaatnya amat tinggi dalam aspek kesihatan dan kecantikan selain mampu membawa pulangan yang besar kepada ekonomi negara.

"Insya Allah mungkin ada penemuan baharu dalam bentuk makanan tambahan kerana saya turut menyedari buah naga juga amat baik untuk menurunkan kolestrol dan amat sesuai bagi pesakit darah tinggi dan sakit jantung."

"Namun, buat masa ini, saya memberi fokus kepada lima produk yang dihasilkan serta telah mempunyai perlindungan harga intelek itu," katanya.

Kosmetik buah naga

UPM hasil teknologi kosmesutikal berasaskan buah naga pertama di Malaysia

Oleh AQILAH MIOR
KAMARULBAID
aqilah.mks@gmail.com

MUNGKIN ramai yang mengetahui bahawa buah naga merah yang memiliki rasa manis dan sedikit masam memberi pelbagai manfaat kepada kesihatan.

Buah yang berasal dari Mexico itu amat mudah didapati di pasaran negara ini sering kali dikaitkan memiliki kandungan serat yang amat tinggi sehingga menjadi pilihan mereka untuk mengatasi masalah sembelit.

Malah, buah itu juga menjadi pilihan utama bagi mereka yang ingin kembali langsing atau untuk mengekalkan potongan badan yang menawan.

Pun begitu, ramai yang tidak menyedari, biji buah naga merah itu juga turut memiliki pelbagai khasiat khususnya untuk tampil lebih segar dan cantik.

Menyedari akan kelebihan pelbagai manfaat dari buah berkenaan, Ketua Penyelidik, Dr. Siti Salwa Abd. Ghani daripada Pusat Asasi Sains Pertanian dan Jabatan Kimia, Fakulti Sains,

Universiti Putra Malaysia (UPM) berjaya menemukan kelebihan biji buah naga sebagai bahan aktif semula jadi yang boleh dijadikan satu komposisi yang amat baik serta berpotensi tinggi dalam bidang kecantikan dan kesihatan (kosmesutikal) dan farmasutikal.

Menjadi produk pertama di Malaysia menggunakan buah naga dalam bidang kosmesutikal pastinya memberi satu lagi kelebihan kepada Malaysia dalam melahirkan pakar dalam bidang berkenaan.

Melalui kajian sejak 2011, produk itu dibangunkan untuk menyelesaikan masalah penuaan kulit yang dihadapi oleh kebanyakan masyarakat yang juga merupakan masalah utama bidang kosmesutikal.

Menurutnya, beberapa faktor mempercepatkan penuaan kulit, di antaranya disebabkan pendedahan kepada sinaran ultra ungu (UV), pembentukan radikal oksigen bebas dan kesihatan kulit itu sendiri.

Rukan itu sahaja, penipisan lapisan ozon, pencemaran udara dan pemanasan global juga menyebabkan masalah kulit berterusan menghantu rakyat negara ini.

"Saya mendapati kesedaran masyarakat berhubung bahaya atau kesan buruk UV kepada kulit dan kepentingan menjaga kesihatan telah meningkat."

"Oleh itu, penyelidikan ini yang juga untuk menghasilkan bahan aktif berasaskan tumbuhan bagi produk kosmesutikal bertujuan mengkaji khasiat yang terkandung dalam tumbuh-tumbuhan."

"Ia juga menghasilkan bahan aktif daripada biji buah naga merah yang digunakan sebagai produk kecantikan," katanya dalam sidang akhbar di UPM, baru-baru ini.

Tambahnya, produk kecantikan Naga Essence yang diproses daripada buah naga itu mengandungi sebatian phenolic dan asid lemak poli tidak tepu yang sangat baik untuk kulit.

Buah naga tersebut diulmakan dalam produk kosmesutikal bagi membentuk lapisan di atas kulit serta

LiNA produk yang dihasilkan menggunakan biji buah naga merah India, krutin anti-penuaan, ginseng pelembap, sabun, tykrool hadas dan cecair pemecut badan atau tangkapan berhidrat menyuburkan kulit.



menghalangi penyerapan UVA ke dalam kulit, mengurangkan pembentukan radikal bebas dan melembapkan kulit.

Berbeza dengan produk yang di pasaran, Siti Salwa yakin ciptaannya melalui kaedah rendah dan tinggi yang digalakan dengan kaedah statistik Design Expert terdiri daripada Respon Surface Methodology, D-Optim Mixture Design dan Artificial Neural Network Software yang menjadi masa, tenaga dan kos pembuat produk turut mempunyai kelebihan sendiri malah lebih baik berbanding produk yang ada di pasaran.

Malah, kos pemrosesan rendah dan bahan sampingan pemrosesan Naga Essence digunakan sebagai produk semulajadi yang diproses dalam bentuk emulsi bersaiz nano.

"Saya berharap produk ini dapat membantu pengguna kesihatan dan kecantikan kulit seluruh pendedahan dengan penyaluran."

Produk-produk yang dihasilkan adalah krim anti-penuaan, pelembap, sabun, skuam dan cecair pencuci badan yang bertindak menyuburkan kulit.

Menurut Dr. Siti Salwa, ia menghasilkan produk tersebut adalah RM700,000 yang dipaparkan perniagaan UPM iaitu Skema Penyelidikan universiti (RUK) 2013 dan PUTRA 2013-2015.

Katanya, antara penyelidik bersama-sama menghasilkan produk tersebut termasuklah pelajar falsafah, Hasmah Bidin; penerjemah, Norsolihah Kamarul; Suhana Mustafa dan pelajar sarjana muda, Nur Fareen A. Huzaimi; Nur Amira Huzaimi; Syarifah Nurhafizah Lukman; Khalifah Talha.

Penyelidikan itu turut di-



DR. SITI SALWA ABD. GHANI memberi penerangan berhubung produk kosmesutikal yang dihasilkan bersama beberapa penyelidik di UPM, baru-baru ini.

BH 28 APRIL 2015, © SELASA

FAMILI BH2 11

Oleh Norhafzan Jaafar
hafzan@bh.com.my

Kosmetik buah naga

» Dr Siti Salwa mahu komersialkan hasil kajian untuk atasi masalah penuaan kulit

Kegemarannya memakan buah naga mencetuskan idea kepada penyelidik Universiti Putra Malaysia (UPM), Dr Siti Salwa Abdul Gani, 32, untuk menghasilkan produk kosmetik pertama di negara ini berasaskan buah daripada keluarga kaktus itu.

Pensyarah Kanan Pusat Asasi Sains Pertanian berkenaan memulakan penyelidikannya secara berperingkat sejak tahun 2011, selepas timbul keinginan mendalami untuk mengetahui dan mengkaji khasiat sebenar buah itu dengan nama saintifiknya *Hylocereus*.

Kajian yang memberikan tumpuan terhadap bahan aktif berasaskan tumbuh-tumbuhan itu berjaya menghasilkan *Naga Essence* yang didapati daripada biji buah naga.

Ia diformulasikan sebagai produk penjagaan kulit, selain sesuai digunakan dalam pelbagai pembuatan dan penghasilan produk kosmetik serta farmaseutikal lain.

Lambatkan kedutan

Siti Salwa berkata, kandungan asid lemak poli-tak tepu dan sebatian antioksidan yang tinggi menjadikan pati buah naga ini yang asal usulnya dari Mexico sangat ideal digunakan oleh mereka yang menghadapi masalah kulit seperti kulit sensitif, kekeruhan dan kedutan.

"Faktor lain mempercepatkan penuaan kulit seperti terdedah kepada sinaran ultra lembayung (UV), pembentukan radikal oksigen bebas dan kesihatan kulit.

"Justeru, *Naga Essence* ini dipercayai membantu melambatkan kulit, menghalang pembentukan radikal bebas, menghalang penembusan ultra lembayung A (UVA) dalam kulit, selain melambatkan pembentukan kedutan.

"Faktor lain mempercepatkan penuaan kulit seperti terdedah kepada sinaran ultra lembayung (UV), pembentukan radikal oksigen bebas dan kesihatan kulit."

Siti Salwa Abdul Gani, Penyelidik UPM

Bronze Award

Siti Salwa (tiga dari kiri) bersama pelajarannya menghasilkan produk *Naga Essence* yang pertama di Malaysia pada sidang akhbar di UPM, baru-baru ini. (FOTO MUNIRA ABDUL GHANI)

Antara produk kosmetik berasaskan buah naga.

"Produk ini amat sesuai digunakan dalam keadaan cuaca Khatulistiwa di Malaysia dan negara kering empat musim serta Asia Barat," katanya ditemui baru-baru ini.

Turut hadir, Timbalan Pengarah Bahagian Edu-Park, Putra Science Park UPM, Prof Madya Dr Faridah Qamaruz Zaman dan Dekan Fakulti Sains UPM, Prof Dr Zainal Abidin Talib.

Selesai masalah kulit

Siti Salwa berkata, penyelidikan berterusan dan berperingkat juga menghasilkan beberapa produk kosmetik lain yang dihasilkan daripada *Naga Essence* seperti krim antipenuaan, sabun, pelembap bibir, lulur badan serta cecair pencuci tangan dan badan.

Beliau berkata, krim antipenuaan yang dihasilkan daripada *Naga Essence* ini diyakini mampu menyelesaikan masalah penuaan kulit yang dihadapi kebanyakan masyarakat hari ini yang juga dikenal pasti sebagai masalah utama dalam bidang kosmeutikal.

"Penipisan lapisan ozon, pencemaran udara dan pemanasan global menjadikan masalah ini semakin serius. Sinaran UV jenis A pula boleh menyebabkan kanser kepada manusia,"

katanya yang turut dibantu dua lagi pensyarah dan tujuh pelajar dalam penyelidikan yang mendapat geran daripada Geran PUTRA UPM sendiri.

Dapat pengiktirafan antarabangsa

Selain kandungannya suci dan halal kerana dihasilkan daripada sumber asli dan bahan tumbuh-tumbuhan semula jadi, *Naga Essence* ini turut mendapat pengiktirafan dari dalam dan luar negara.

Antaranya adalah pingat emas dalam Pameran Reka-dipta Penyelidikan dan Inovasi UPM (2014), pingat perak dalam Cabaran Inovasi Pertanian Malaysia (2014) dan perak gangsa bagi Anugerah Inovasi Bio (Bioteknologi Asia) pada tahun 2014.

Ditanya mengenai keberkesanan *Naga Essence* untuk bersaing dengan produk kosmetik sedia ada di pasaran, Siti Salwa berkata, beliau yakin ia mampu menembusi pasaran bukan hanya tempatan tetapi juga di luar negara berikutan khasiat tersendiri yang ada pada pati buah naga itu.

"Masyarakat kini sudah ada kesedaran terhadap bahaya dan kesan buruk kulit yang terdedah kepada sinaran UV, selain kepentingan menjaga kesihatan kulit."

"Tambahan pula penggu-

na semakin beralih kepada produk berasaskan buah atau mempunyai kandungan berasaskan bahan semula jadi," katanya.

Beliau kini dalam proses mempromosikan produk berkenaan kepada syarikat kosmetik yang bersedia untuk mengetengahkan *Naga Essence* secara komersial.

INFO

Buah naga

- Nama bahasa Inggeris: Pitaya
- Nama saintifik: *Hylocereus*
- Spesies buah naga: *Hylocereus polyrhizus* (kulit merah beris merah), *Hylocereus undatus* (kulit merah beris putih), *Hylocereus megalanthus* (kulit kuning beris merah)

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Infinity

Keajaiban formula pati buah naga

Buah naga merah bukan sahaja enak untuk dinikmati sebagai pencuci mulut tetapi mempunyai khasiat untuk memastikan kecantikan kulit.

APABILA bercakap mengenai buah naga, orang ramai terbayang warna merah, putih dan kermanisan rasa buah eksotik dari benua Amerika Tengah dan Amerika Selatan itu. Selain menjadi bahan makanan pencuci mulut dan hidangan minum petang, buah naga mempunyai kelebihan lain iaitu mampu menjadi bahan kosmetik untuk memastikan kecantikan kulit wajah serta seluruh tubuh badan.

Kajian yang dilakukan oleh penyelidik Universiti Putra Malaysia (UPM), Dr Siti Salwa Abd. Gani dan kumpulannya berjaya menghasilkan produk kosmetik pertama di Malaysia yang diperbuat daripada buah naga.

Menurut Siti Salwa, produk berasaskan tumbuhan yang dinamakan Naga Essence itu boleh dicampurkan dengan semua produk penjagaan kulit atau digunakan begitu sahaja ke atas kulit.

"Antara produk kosmetik yang berjaya dihasilkan adalah seperti krim anti-penuaan, gincu pelembas, sabun, shower buih dan esens pencuci badan atau lotion."

"Sangat ideal untuk produk

kosmetik kerana komposisinya yang baik seperti kandungan tinggi asid lemak poli tak tepu (linoleic dan linolenic) dan sebatian antioksidan (ferulik dan flavonoid)."

"Pada waktu malam, penggunaan bahan yang mengurangkan oksidasi pada kulit akan menggalakkan sel kesihatan dan penyembuhan sel."

Kedua-dua faktor ini menjadikan "Pati buah naga" sebagai produk ini boleh digunakan oleh individu yang menghadapi masalah kulit seperti sensiti, kekejangan dan ketukan kerana ia dikatakan mampu melambatkan proses penuaan.

radikal bebas, menyekat penembusan pancaran ultra ungu (UVA) dalam kulit dan melambatkan pembentukan kedutan.

"Selain itu, produk ini juga sesuai digunakan di negara beriklim khatulistiwa seperti Malaysia, Indonesia dan negara yang kering seperti di Asia Barat."

Sementara itu, Siti Salwa memberitahu, kedua-dua jenis buah naga atau nama saintifiknya *Hylocereus* dan *Fiberaria undulata* sering digunakan dalam produk makanan kerana ia mempunyai

PRODUK Naga Essence merupakan inovasi berasaskan buah naga yang pertama di Malaysia hasil kajian penyelidik UPM.

kandungan serta bahan aktif antioksidan yang sangat tinggi yang dapat membantu menyihatkan tubuh badan.

"Semua produk yang dihasilkan menggunakan statistik *Design of Expert* dan dibangunkan di makmal menggunakan kaedah tenaga pengiraian statistik dan Institut Pengiraian dan Produk Halal."

dalam bidang kosmetik, Naga Essence berpotensi dalam bidang farmaseutikal, ubat-ubatan yang memulakan penyelidikan sejak tahun 2011.

Penyelidikan tersebut turut dijalankan oleh tiga unit berbeza di UPM iaitu Pusat Penyelidikan Pertanian, Institut Sains dan Institut Pengiraian dan Produk Halal.

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SALWA MOZAIN | salwa@sinhar.com.my

Pertama di Malaysia

Naga Essence formula baharu penjagaan kulit

Baharu kosmetik dengan pelbagai kandungan dan penambahan di pasaran juga mengukuhkan golongan wanita antara sasaran utama yang tidak terlepas peluang memilikinya tanpa berfikir panjang.

Rumai kalangan kita membeli tanpa melihat kepada kandungan, asal-usul banyak testimoni besarnya, perasaan ingin mencuba mengatasi kesakitan berfikir. Melalui situasi ini, timbul minat Penyelidik Jabatan Kimia, Fakulti Sains Universiti Putra Malaysia (UPM), Dr Siti Salwa Abd. Gani untuk hasilkan produk kosmetik yang pertama di Malaysia berdasarkan buah naga.

Memang, buah naga atau nama saintifiknya *Hylocereus polyrhizus* *Hylocereus undatus* dan *Selenicereus megalandrus* mempunyai kandungan dan baham aktif antioksidan yang sangat tinggi selain dapat membantu menyelesaikan tularin badan.

"Saya mendapat idea untuk jadikan buah ini kosmetik kerana komposisinya yang sangat baik seperti kandungan tinggi asid lemak poli tak tepu (linoleic) dan asid linoleic) dan sebatian antioksidan (vitamin C, E, beta-carotene)." katanya.

Tambahan pula, buah naga juga memang diperolehi, penanaman untuk komersial telah berkembang di beberapa negara Asia. Lagipun produk ini sesuai digunakan di negara tropika seperti Malaysia, negara yang letaknya seperti negara empat musim dan tropis.

Bahan utama hasil penyelidikan itu adalah Naga Essence. Naga Essence adalah produk pertama di Malaysia menggunakan buah naga dari la berasaskan tumbuhan yang diteliti untuk produk penjagaan kulit. Produk ini mempunyai jangka hayat sehingga tiga tahun.

Pelbagai Khasiat dan Kegunaan
Idea Siti Salwa, Naga Essence boleh digunakan dalam pelbagai produk kosmetik dan farmaseutikal selain boleh digunakan begitu sahaja ke atas kulit.

Produk ini sesuai digunakan mereka yang menghadapi masalah kulit sensitif, kekejangan dan kedutan kerana ia berfungsi untuk melembapkan kulit, menghalang

“Saya percaya produk ini mampu menjadi keperluan setiap individu baik lelaki mahupun wanita kerana ianya selamat.”
- Dr. Siti Salwa

pembentukan radikal bebas, menghalang penembusan gelombang ultraviolet panjang (UVA) ke dalam kulit dan melambatkan pembentukan kerdut.

"Antara produk kosmetik yang berkesan dihasilkan menggunakan Naga Essence adalah krim anti penuaan, pencuci muka, sabun, scrub badan dan pencuci badan dan tangan," katanya.

Katanya, semua produk dihasilkan menggunakan statistik design of expert yang dibangunkan di makmal menggunakan kaedah tenaga perayagaman rendah dan tinggi. Selain itu untuk diaplikasikan dalam bidang kosmetik, Naga Essence juga sesuai digunakan dalam bidang farmaseutikal.

Design of expert terdiri daripada response surface methodology, digital mixture design dan artificial neural network software yang dapat menghasilkan maklumat yang baik dalam membangunkan produk penyelidikan tersebut. Penyelidikan ini juga dijalankan di Institut Penyelidikan Produk Halal, UPM.

Semua produk hasil daripada buah naga.

PENCAPAIAN TERENGGU

- Meremang pengat emas dalam Fikiran Eka Rupa Penyelidikan dan Inovasi (2014)
- Pingat Perak di Malaysia Agricultural Innovation Challenge (Magici) (2014)
- Pingat Gangsa di Bioteknologi Asia (2014)
- Turut serta dalam Malaysia International Trade Research and Innovation Conference

Master, Norziah Kamardin, Suhana Mustari dan pelajar Bacik Nur Fikri Azila Hanim, Nur Amira Haris Piliu, Syarifah Nurhalisah Lukman serta Khalijah Talha begitu membantu proses penyelidikan itu.

Memandangkan khasiat buah itu sudah diketahui umum, kini proses penyelidikan dilakukan pula pada bahagian daun, batang, kulit dan pokok itu sendiri. "Ia dilakukan secara berperingkat bagi mengenal pasti bahagian-bahagian lain juga ada manfaatnya. Rajin untuk buah juga masih belum

menjelajah kerana hanya buah naga merah sahaja yang dijadikan sampel, sedangkan buah naga mempunyai tiga spesies yang terdapat di negara *Hylocereus polyrhizus* (berwarna merah termasuk ini), *Hylocereus undatus* (berwarna merah tetapi ianya putih), manakala *Selenicereus* (berwarna kuning, dan ianya putih," katanya.

Perancangan masa depan juga akan memfokuskan kepada pengkhususan produk. Katanya, pada masa kini, ia belum dipasarkan secara meluas termasuk aspek seperti pelabelan, pembungkusan serta pemasaran produk.

Ia sendiri masih belum beridea. Namun perancangan untuk memasarkan secara besar-besaran itu sedang di fikirkan.

"Saya percaya produk ini mampu menjadi keperluan setiap individu baik lelaki mahupun wanita kerana ianya selamat, menggunakan bahan semula jadi, krim anti aging dan pemutih Naga Essence mampu memberi penyelesaian kepada kulit daripada faktor penuaan, manakala untuk Naga Essence boleh melembapkan kulit. "Tidangi biter daripada sinar UV dan menjaga kecantikan biter," katanya.

Tuntutan ini, selain itu, seperti satu-satunya untuk membina kulit mati, melembut dan melembapkan kulit, begitu juga dengan scrub dan Naga Essence pencuci tangan yang berfungsi untuk menghalang kuman, melindungi dan menyuburkan kulit.

SITI SALWA

Skrub badan

Dr. Salwa ketika melawat kebun penanaman buah naga.

INFO

Informasi pengaliran: drsiti.salwa@upm.edu.my
dan salwa@sinhar.com.my
yang berminat untuk berkolaborasi penyelidikan, emelkan kepada salwa@sinhar.com.my

16) Buletin Putra, December 2010

UPM Menang 3 Emas dan 2 Perak di INNOVA, Belgium



Dari kiri: Dr. Siti Salwa Abd Gani, Dr. Rosnah Shamsudin, Prof. Dr. Abdul Halim Shaari, Prof. Dr. Taufiq Yap Yun Hin, Prof. Madya Dr. Abdul RAshid Mohamed Shariff

BRUSSELS— Seramai lima penyelidik Universiti Putra Malaysia (UPM) berjaya meraih satu anugerah khas dan lima pingat di World Exhibition on Innovation, Research and New Technologies (INNOVA) pada 18-20 November 2010.

Anugerah Khas daripada Romania dan pingat emas yang dimenangi oleh Prof. Dr. Abdul Halim Shaari ialah 'Novel Ceramics for Energy Storage' iaitu bahan seramik yang boleh menyimpan tenaga elektrik dengan banyak.

Bahan itu boleh digunakan dalam komponen-komponen kecil seperti kapasitor, penapis elektrik dan resistor.

Prof. Dr. Y.H. Taufiq Yap Yun Hin menerima pingat emas melalui produknya VANPHOS : New Solvothermal Synthesised Vanadium Phosphate Catalysts for Light Alkane Oxidation iaitu cara baharu pemangkin kristal saiz mikro menggunakan media organik yang rendah dalam sistem autoclave dengan masa yang singkat.

Produk emas ketiga dimenangi oleh Prof. Madya Dr. Abdul Rashid Mohamed Shariff ialah Integrated 3D Terrain Visualizer iaitu sistem untuk menggambarkan bentuk topografi muka bumi dalam bentuk tiga dimensi melalui laman web persekitaran.

Manakala pingat perak dimenangi oleh Dr. Rosnah Shamsudin dengan produk Efficient Jatropha Curcas L. Fruit Shelling Machine For Biodiesel Production iaitu sebuah mesin untuk memisahkan isi dan kulit buah jarak.

Pingat perak kedua dimenangi oleh Dr. Siti Salwa Abd Gani dengan produk Nano-Engkabang Formulations for Cosmeceutical Application iaitu menggunakan sistem nano teknologi untuk menghasilkan formulasi krim dan losyen kulit hidrasi.

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