



RESEARCH@UCSI

**CENTRE OF EXCELLENCE IN
RESEARCH, VALUE INNOVATION
AND ENTREPRENEURSHIP**

**OFFICE OF
POSTGRADUATE STUDIES**



**APRIL 2022
VOL. 4 NO.2**

e-ISSN: 2710-7256

32ND INTERNATIONAL INVENTION, INNOVATION & TECHNOLOGY EXHIBITION (ITEX 2021) GOLD MEDALISTS

Invention: **Kenaf Bright Plus Lotion**

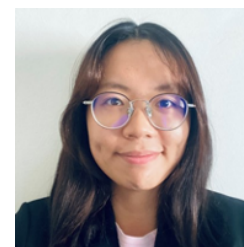
Researchers: **Associate Professor Dr Nyam Kar Lin, Dr Sim Yan Yi, Ms Chu Chee Chin (Faculty of Applied Sciences).**

Award synopsis:

Recently, the term circular economic model refers to a model that can enhance sustainability in industrial waste management by reducing waste production and maintaining long-term value while decreasing the negative consequences of resource scarcity and environmental degradation has gained public interest. *Hibiscus cannabinus* L. (kenaf) is Malaysia's 5th industrial crop famous for its fibrous stems. However, large quantities of industrial by-products such as kenaf seed and leaf are generated, causing sustainability problems. In view of this, a skin brightening cosmetic formulation: "Kenaf Bright Plus Lotion", comprised of kenaf seed and leaf has been innovated to introduce a new possible application for kenaf seed and leave as sustainable sources of natural active ingredients for the cosmetic industry. This is the first kenaf cosmetic products existence in Malaysia. Associate Professor Dr Nyam Kar Lin's research team has utilized nanotechnology to formulate the kenaf seed oil nano emulsion lotion base with enhanced skin delivery properties. Furthermore, they also successfully developed a specialized purification process to obtain the purified kenaf leaf extracts with a strong skin brightening effect. The Kenaf Bright Plus Lotion efficiency has been experimentally proven, with the lotion formulation demonstrating a significant suppressive effect on the MITF melanogenesis pathway, the key pathway involved in the synthesis of skin darkening pigments.



**Associate Professor
Dr Nyam Kar Lin**



Dr Sim Yan Yi



Chu Chee Chin



Content

32nd International Invention, Innovation & Technology Exhibition (Itex 2021) gold medalists by Associate Professor Dr Nyam Kar Lin

Research and Teaching Excellence Award 2021

Research for Arts and Design: A Self-reflection by Assistant Professor Dr Siek Hwee Ling, Perline

Interprofessional learning facilitator training by Saraswathy Thangarajoo

Mattering and Well-being by Assistant Professor Dr Ditto Prihadi

Fundamental Research Grant Scheme (FRGS) 2021 by Various researchers

Current Research Grant Call, Exhibition and Symposium

RESEARCH AND TEACHING EXCELLENCE AWARD 2021



Dato' Peter T. S. Ng with the Award recipients

Research and Teaching Excellence Award 2021 was held on the 24th February 2022. The award is as an incentive to motivate UCSI University academia towards achieving excellence in the fields of research and development. The event was attended by Dato' Peter T. S. Ng, the founder and chief executive officer of UCSI Group, Professor Datuk Ir Ts Dr Siti Hamisah Binti Tapsir, Vice Chancellor for UCSI University, Senior Professor Dr Phang Siew Moi, FASc (Deputy Vice-Chancellor, Research and Postgraduate), Professor Datuk Dr Rohana Binti Yusof, FASc (Deputy Vice-Chancellor, Academic and Internationalisation), Dean and Directors as well as the award recipients.

The Highly Cited Paper Award was awarded to Associate Professor Dr Garry Tan Wei Han from UCSI Graduate Business School (GBS). 10 researchers were awarded with the Top Research Publication Contributors with Assistant Professor Dr Pui Liew Phing publishing 27 Scopus/WoS indexed papers. Meanwhile, Rising Star Awards are given to recognize young UCSI researchers who show promise of outstanding achievements in the fields of (a) Science & Technology (b) Social Sciences/Arts. Recipients for Science field include Assistant Professor. EUR ING Ir Ts Dr Lim Wei Hong, Assistant Professor Ts Dr Thung Wei Eng, Dr Khoo Kuan Shiong while Associate Professor Ts Dr. Ganeshsree A/P Selvachandran and Assistant Professor Dr Eugene Aw Cheng Xi from Art and Social Sciences.

Apart from that, Best Product Innovation and Commercialization Awards were given to Associate Professor Dr Mogana Sundari A/P Rajagopal and Assistant Professor Dr Chloe Thong Chee Ling for innovative and impactful product.



Top Research Publication Contributors 2021: Senior Professor Dr Phang Siew Moi, FASc (left) and Associate Professor Dr Nyam Kar Lin (right)



Best Product Innovation and Commercialization Awards: Associate Professor Dr Mogana Sundari A/P Rajagopal



Top 2% Scientists in the World by Stanford University: Associate Professor Dr Garry Tan Wei Han



Rising Researcher Award 2021 (Science): Assistant Professor Dr Thung Wei Eng



Best New Lecturer 2021: Assistant Professor Dr Chai Pui Yun



Most innovative lecturer 2021: Dr Vaidehi Ulaganathan

TOP RESEARCH PUBLICATION CONTRIBUTORS

1. Asst. Prof. Dr. Pui Liew Phing- 27 Scopus/WoS
2. Assoc. Prof. Dr. Hiram Ting - 21 Scopus/WoS
3. Assoc. Prof. Dr. Nyam Kar Lin- 20 Scopus/WoS
4. Senior Prof. Ts. Dr. Ooi Keng Boon, FASc - 16 Scopus/WoS
5. Asst. Prof. Ts. Dr. Yeap Swee Pin - 14 Scopus/WoS
6. Assoc. Prof. Dr. Grace Ng Hui Suan - 13 Scopus/WoS
7. Asst. Prof. Dr. Shayla Islam - 13 Scopus/WoS indexed papers
8. Senior Prof. Dr. Phang Siew Moi, FASc - 12 Scopus/WoS
9. Assoc. Prof. Dr. Elango Natarajan - 11 Scopus/WoS
10. Prof. Dr. Ong Seng Huat, FASc - 11 Scopus/WoS

The Top 2% Scientists in the World as published by Stanford University were presented to Senior Professor Dr Phang Siew Moi, FASc, Senior Professor Ts Dr Ooi Keng Boon, FASc, Associate Professor Dr Eric Chan Wei Chiang and Associate Professor Dr Garry Tan Wei Han. Faculty of Applied Sciences was recognized as the faculty With The Best Research Performance.

Besides that, awards also given to academician who excels in their teaching field. The award for Best Lecturer was given to Assistant Professor Ts Dr Yu Lih Jiun. Assistant Professor Dr Chai Pui Yun is regarded as Best New Lecturer while Dr Vaidehi Ulaganathan received the award Most Innovative Lecturer. During the award ceremony also, the UCSI Press was officially launched. Initiated since July 2021, UCSI Press supports the promotion of high-quality research publications. The primary outputs are scholarly monographs and edited collections, as well as innovative and experimental publications. Four books under the UCSI Press were also previewed during the launching.



Launching ceremony of UCSI Press



Books under UCSI Press

RESEARCH FOR ARTS AND DESIGN: A SELF-REFLECTION

Assistant Professor Dr Siek Hwee Ling, Perline

Introduction

All artists and designers, regardless of their area of specialisation, engage in creative exploration in the process of making and designing. We can differentiate 'design that is simply design' and 'design that is a form of research' by looking at the intended goals and outcomes. Artists or designers who intend to conduct research through their creative practice try to address a more extensive set of questions instead of focusing merely on 'the making of things and beautiful things'. Their work is original, experimental, interrogative, and inquisitive (Muratovski, 2016), and their creative process involves a critical self-reflection on their actions (Burdick, 2003). Such reflection generated, documented, and reported by the artists and designers, though is not 'scientifically' sound, can still be served as new knowledge and contribution to the practice because it leads to improvement and reformation. In other words, the artist or designer, who plays the role of practitioner and researcher simultaneously, is the key instrument for data collection.

In general, there are a few steps to follow to enable art and design practitioners to consciously investigate and evaluate their own works. As suggested by McNiff and Whitehead (2012), when the investigation starts, a practitioner should ask him or herself some questions, such as 'what am I doing?', 'do I need to improve something?', 'if so, what will it be?', 'how do I improve it?', and 'why should I improve it?'. The most important thing to take note is that the research must be rooted in a problem in which the practitioners find themselves interested in, and would like to seek for knowledge and to articulate it meaningfully. The whole research process is an iterative cycle of planning, acting, observing, and reflecting (Swann, 2002).

The value of such kind of research is to help art and design practitioners to improve and enrich their practice and open up new possibilities in the field. In addition, the outcomes of such research may provide new references and knowledge for other practitioners and ultimately contribute to the development and expansion of the field of arts and design.

My Research Experience as an Arts and Design Practitioner

Back in 2021, I was involved in designing the arts and layout of a book. The design and production requirements given by the publisher were: A4 size, landscape orientation, full colour printing, and 105gsm art paper as material. The target readers of this book is elementary and lower secondary school students in Malaysia. In total, there were 5 articles, and each article was around 900 words. As a graphic design practitioner, I was required to draw all the illustrations to reflect the content provided for each article and arrange the illustrations, graphics, and text to create a good reading experience for the readers. It is worth noting that the content book is to be presented in bilinguals (Malay and Chinese). In the end, I have designed 50 layouts, which means that 10 layouts were allocated per article.



Figure 1: Watercolour painting, wet on wet technique on watercolour paper, size: 76 cm x 58 cm



Figure 2: Offset CMYK printing, page 28- 29 of Hubungan Taiwan Dengan Negara Rumpun Bahasa Austronesia (2021), ISBN 978-967-2632-71-9

Let me extract a short paragraph from the book (page 28 – 29) to explain how I play my role as a ‘art/design researcher’.

“...An anthropologist from Taiwan, Chen Qilu judged that the pearl beads with a long history were originated from Southeast Asia. Japanese scholar Tomoju Miyoshi visited Nanyang in 1930 found the pearl beads were originally from the northern part of Borneo...”

Based on the text given above, as an artist, I started searching literature on Southeast Asian pearl beads and on all relevant topics, reviews, and analyses about the colours of the beads, shapes, subject position, composition, and so on. After that, I explored various possibilities and formats to create an aesthetically pleasing image while leaving sufficient space for text placement. This self-awareness was important here because I do not want the placement of text later on spoiling the beauty of my illustrations. As you can see in **Figure 1**, I was using wet on wet watercolour technique, which involved creating different colour tones of wet paints on watercolour paper. Such technique allowed the paints from one area to blend into the other areas while controlling the water movement to prevent it from diluting the image of the main subject of the illustration, i.e., the cultural character of Sarawak who wears the traditional costume with pearl beads. In fact, the size of each of my illustrations is very much bigger than the book size.

Once all the illustrations were created manually, as a graphic designer, I scanned them into the computer and started playing around with them to compose an interesting layout that could trigger the interest of target readers. The finalisation of the book layouts took place after 3 to 4 rounds of discussions with the publisher. I shared my thoughts, experiences and feelings while creating the arts and design of the book with the publisher; to be honest, some times we also have to convince and selling our design concept. In short, as an art and design researcher, I constantly planned, acted, observed, and reflected in the creative process of this book about what and how could I improve my practice and work further and why. And not only that, I have to make sure the final designs met the technical requirements for offset printing (see **Figure 2** for the printed copy).

Final Remarks

I hope you find the self-reflection of my ‘creative practice’ interesting and now know that research for arts and design is not just about ‘the making of things and beautiful things’ based on intuition. Instead, it is an inquisitive, systematic, and iterative process that aims to find better solutions to improve performance in practice. Art and design researchers always strive to revise and reform their practice through ‘research’. They constantly record their feelings and experiences in creative process in a ‘reflective’ manner for further improvements or explorations (Rust, Chamberlain, & Roddis, 2000). To create a piece of art and design that can potentially advance the field, all artists or designers will need to go through years of practice, learn from experience, keep on reflecting their actions, and share their thoughts with others generously. The Malaysian television channel (TV2) in November 2021 had interviewed and broadcasted my live demonstration of this painting (see Figure 3 & 4), I do hope that I am able to inspire students. After all, it is a matter of balance between ‘discourse’ and ‘creation’.



Figure 3: Interviewed by Malaysian television channel (TV2), Galeri Mandarin TV show

Figure 4: Live demonstration broadcasted by Malaysian television channel (TV2), Galeri Mandarin TV show

INTERPROFESSIONAL LEARNING FACILITATOR TRAINING

Saraswathy Thangarajoo

Interprofessional learning (IPL) is a vital issue to be addressed in Malaysian collaborative healthcare education. In 1988, the World Health Organization's drive on of "Learning together to work together for Health" opened a new direction on providing multidisciplinary healthcare students opportunities to learn together. The IPL approach provides opportunities for practicing health professionals and trainees from multiple disciplines to learn with, from and about one another to improve the quality of patient care (Zwarenstein et al., 1999).

Interprofessional collaborative learning facilitators in healthcare education

In 2010, WHO highlighted the importance of a collaborative health workforce as one of the best ways to face the highly complex healthcare challenges. In 2005, the Health Council of Canada emphasized the right mix of healthcare providers with the right skills for the ability to provide access to "high quality, effective, patient-centered and safe care." The IPL approach in healthcare education and services has the potential to improve patient safety as evidenced by established research publications. The collaborative team-care approach is imperative, particularly in circumstances of pandemic outbreaks such as Covid. The IPL implementation strategy should include clear agreed vision with achievable goals for the facilitators (Harden & Laidlaw, 2021).

Nevertheless, interprofessional learning facilitator training is much needed to prepare healthcare educators to deliver the IPC training in multiple healthcare professions. Freeman et al., (2010) further stated there is no optimal method in delivering interprofessional education but effective facilitation is a crucial part of successful IPC training. The role of IPL facilitator includes developing patient-centric teaching and learning strategies at the educational level for healthcare undergraduates. The program delivery involves applying the IPL collaborative approaches suitable for clinical practice. Infection control, prescription, patient safety, surgery procedures such as wound care management, and others could be areas to focus on.

Barriers in Interprofessional collaborative learning in healthcare education

Previous studies provided evidence on barriers in collaborative practices among health professionals. For instance, hierarchical questions often result in significant barriers to patient safety and disconnect among professions. Healthcare professionals also need to change the way they work and relate to one another before they can work efficiently in collaborative teams (Nelson et al., 2017). Assessment is also a challenge as pre-qualification professional education focuses on the profession-specific professional accreditation requirements such as medicine, nursing, pharmacy, and others (Thistlethwaite, 2012).



Interprofessional collaborative learning at UCSI Springhill Campus

Significance of Interprofessional collaborative learning in healthcare education

The establishment of the hallmark article by Dr. Stein (1967) on the doctor-nurse game started a wide debate on professional collaboration between doctors and nurses. The article highlighted the need for intense mutual respect and cooperation between the team members. The stereotype attitude towards nurses as the handmaiden of male doctors creates serious resistance to ineffective communications between them. In supporting the IPL advancement, the Interprofessional Education Collaborative Experts Panel (IPEC, 2011) established four IPL core competency domains; namely ethics and values for interprofessional (IP) practice, roles, and responsibilities, IP communication and teams and teamwork. A recent study by Saraswathy et al., (2021) from Malaysia examined the core competencies of IPEC's IPL four domains as mentioned. The study showed using interprofessional simulated scenarios on hospital-acquired infection control improved knowledge, attitude, and skills in infection control practices among healthcare professionals. The study also applied structured checklists infusing sub-competencies of the recommended IPEC domains to assess the participants. The authors also suggested the need for IPL facilitator trainers to conduct IPL training sessions within Malaysian healthcare education.

In conclusion, interprofessional facilitator training is much needed to develop and support the community of interprofessional learning facilitators. The limitation is the gap that needs to be identified in Malaysia as healthcare education is still based on profession-specific training. The way forward is to support the advancement of IPL healthcare education, establishment of IPL collaborative research department and structured programs on interprofessional facilitator training.

References

- Freeman, S., Wright, A., & Lindqvist, S. (2010). Facilitator training for educators involved in interprofessional learning. *Journal of interprofessional care*, 24(4), 375–385. <https://doi.org/10.3109/13561820903373202>
- Harden, R.M. & Laidlaw, J.M. (2021). *ESSENTIAL SKILLS FOR A MEDICAL TEACHER: An introduction to teaching and learning in medicine*. (3rd ed.). Elsevier
- Health Canada. (2010). Creating healthy, supportive, learning workplaces. Retrieved from <http://tinyurl.com/kpz7xh9>
- Interprofessional Education Collaborative. Core competencies for interprofessional collaborative practice: update. 2016. Washington, DC: Interprofessional Education Collaborative. <https://hsc.unm.edu/ipe/resources/ipe-2016-core-competencies.pdf>.
- Nelson, S., White, C.F., Hodges, B.D., Tassone, M., 2017. Interprofessional team training at the prelicensure level: A review of the literature. *Academic Medicine*, 92(5), 709–716. doi:10.1097/ACM.0000000000001435.
- Saraswathy, T., Nalliah, S., Rosliza, A. M., Ramasamy, S., Jalina, K., Shahar, H. K., & Amin-Nordin, S. (2021). Applying interprofessional simulation to improve knowledge, attitude and practice in hospital-acquired infection control among health professionals. *BMC medical education*, 21(1), 482. <https://doi.org/10.1186/s12909-021-02907-1>
- Thistlethwaite J. (2012). Interprofessional education: a review of context, learning and the research agenda. *Medical education*, 46(1), 58–70. <https://doi.org/10.1111/j.1365-2923.2011.04143.x>
- WHO Study Group on Multiprofessional Education of Health Personnel: The Team Approach & World Health Organization. (1988). *Learning together to work together for health: report of a WHO Study*
- Group on Multiprofessional Education of Health Personnel: the Team Approach [meeting held in Geneva from 12 to 16 October 1987]. World Health Organization. <https://apps.who.int/iris/handle/10665/37411>.
- World Health Organization. (2010). Framework for action on interprofessional education and collaborative practice. Retrieved from <http://tinyurl.com/lxachnd>
- Zwarenstein M, Atkins J, Barr H, Hammick M, Koppel I, Reeves S. A systematic review of interprofessional education. *J Interprof Care*. 1999;13(4):417–24. <https://doi.org/10.3109/13561829909010386>



Saraswathy Thangarajoo is a lecturer in the School of Nursing, Faculty of Medicine and Health Sciences. Her academic qualifications include (RN, Paediatric Nursing (Cert.), Bachelor of Nursing Sciences (Teaching) University Malaya, Master of Educational Management, University Malaya). For collaborations, kindly contact her at T.Saraswathy@ucsiuniversity.edu.my

MATTERING AND WELL-BEING

Assistant Professor Dr Ditto Prihandi



**Assistant Professor Dr Ditto
Prihandi**

Well-being, or the feeling of being healthy and happy, is still a dream to many, but it is too important to neglect. This simple text is meant to give some idea on how to obtain and sustain well-being through a psychological property called mattering.

1. What is mattering?

Coined by Rosenberg & McCullough [1], the concept of mattering was explained as a 'unique variance in psychological distress beyond the variance attributable to self-esteem'. A bit confusing? Luckily, Elliot and colleagues [2] simplified it for us by defining it as the perception that we are a significant part of our social environment. We can simplify it further by defining mattering as 'the sense that we matter to other'.

2. Why mattering matters?

Think about the greetings of the security guards who open the gate for you, a nod and 'behind the mask' smiles from random colleagues that you don't really know when you shared the lift with them, or a non-stop birthday greeting from the office WhatsApp group. Are they important to you? Of course, not as important as meeting the deadlines or successfully finished 1km run in the morning, but it makes you feel you matter to them. You feel acknowledged, needed, or even missed when you're absent.

A study in Japan indicated that mattering is a significant and influential predictor of happiness [3]. Not only that, series of studies in Malaysian setting reported that mattering is a robust predictor of life satisfaction [4], subjective wellbeing (happiness) [5], self-acceptance [6], and even a robust protective factor of anxiety and depression [7]

Those studies indicated that all the good things happen when one feels they matter to others. They feel acknowledged, approved, accepted, and socially included.

3. What if one doesn't feel they matter?

Imagine you have a very active WhatsApp group with your besties, where you always share secrets, jokes, rantings, and all the corny stuff together. You feel that you are acknowledged, accepted, included, and your story matters to them. Then two weeks later, you found out that all the besties you have in that group had set up another WhatsApp group without you in it. Read the last sentence once more, and feel it. That's the feeling of a lowered mattering. You feel marginalized, unimportant, unacknowledged, and don't belong to the group.

While imagining it might have hurt us, further studies on mattering shows that not-mattering or the feeling that we do not matter has shown more sinister effect. Elliot and colleagues [8] reported that among adolescence in the USA, not-mattering significantly dropped one's self-esteem that led them to depression and developed ideas of committing suicide.

People in general were unaware about the sense of not-mattering until the lockdown was enforced in most of the parts of the world. Being locked-down blocked us from the source of mattering: the social environment. The fear of missing out (FOMO) level was high during the outbreak. However, Casale & Flett [9] reported that the most of the FOMO during the lockdown were based on the fear that others could not see them, rather than the fear that they could not see others.

4. What should we do about it?

We live happier when we live among happy people. Therefore, in order to maintain our own wellbeing, it is important to maintain the wellbeing of the people among us. It means that we need to make sure that they feel they matter to us. There are so many ways to do so, but sometimes, most of us did not really care about it. Here are some of the ways:

1. Instead of saying "No" to a request, say "I'm sorry, but..."
2. Accept any offer of help, even though you don't need it.
3. Say "Thank you" like you mean it, with your eyes looking at their eyes.
4. Always try to find time or occasion to say thank you.
5. When you need help with something trivial (picking up something in higher part of the rack, lifting something heavy), don't hesitate to ask for help.

5. Conclusion

Mattering is the sense that we matter to others. Studies have reported that individuals with high levels of mattering tend to have more positive well-being, starting from lower depression, lower anxiety, higher self-acceptance, and higher levels of satisfaction with life. Living among with high sense of mattering will maintain our own, therefore, it is important to help others feel that they matter to us.

References

- [1] M. Rosenberg and B. C. McCullough, "Mattering: Inferred significance and mental health among adolescents.," Research in Community & Mental Health, vol. 2, p. 163-182, 1981.
- [2] G. C. Elliott, S. Kao and A.-M. Grant, "Mattering: Empirical Validation of a Social-Psychological Concept," Self and Identity, vol. 3, no. 4, pp. 339-354, 2004.
- [3] H. Taniguchi, "Interpersonal Mattering in Friendship as a Predictor of Happiness in Japan: The Case of Tokyoites," Journal of Happiness Studies, vol. 16, no. 6, pp. 1475-1491, 2015.
- [4] K. D. Prihadi, E. S. Lim, E. Sim and K. Chong, "Mattering and Life Satisfaction among the Quarantined Adults in Malaysia during the Covid-19 Pandemic," International Journal of Public Health Science (IJPHS), vol. 10, no. 1, pp. 189-193, 2021.
- [5] Z. Foo and K. D. Prihadi, "Happiness of University Students in New Normal Malaysia: The Role of Mattering, Optimism, and Social Support," International Journal of Evaluation and Research in Education, pp. 448-454, 2021.
- [6] S.-Y. Kam and K. D. Prihadi, "Why students tend to compare themselves with each other? The role of mattering and unconditional self-acceptance.," International Journal of Evaluation and Research in Education, vol. 10, no. 2, pp. 441-447, 2021.
- [7] K. D. Prihadi, S. Wan, V. Y. Lee and H. N. Ismail, "Anxiety and depression among university students during the lockdown: their protective and risk factors," International Journal of Public Health Science (IJPHS), vol. 11, no. 1, pp. 327-335, 2022.
- [8] G. C. Elliott, M. F. Colangelo and R. J. Gelles, "Mattering and suicide ideation: Establishing and elaborating a relationship.," Social psychology quarterly, vol. 68, no. 3, pp. 223-238, 2005.
- [9] S. Casale and G. L. Flett, "Interpersonally-based fears during the covid-19 pandemic: Reflections on the fear of missing out and the fear of not mattering constructs.," Clinical Neuropsychiatry, vol. 17, no. 2, p. 88-93, 2020.
- [10] G. Flett, The Psychology of Mattering: Understanding the Human Need to be Significant., York University, 2018.
- [11] K. D. Prihadi, C. Y. Wong, E. Y. Chong and K. Y. Chong, "Suicidal Thoughts among University Students in Malaysia and Indonesia: The Role of Mattering, State Self-Esteem and Depression Level," International Journal of Evaluation and Research in Education, vol. 9, no. 3, pp. 494-502, 2020.



Assistant Professor Dr Ditto Prihadi is the Head of Research and Postgraduate Studies in FOSSLA, where he teaches Research Method in Psychology, Statistics for Psychology, etc. Having been invited as facilitators for trainings and workshops in companies like Leaderonomics, DiGi, and Hewlett Packard, his major interest stays in research. His current research interest was started from self-esteem, and then it grew to mattering, social media and interpersonal relationship.

FUNDAMENTAL RESEARCH GRANT SCHEME (FRGS) 2021: MAPPING EXPRESSION QUANTITATIVE TRAIT LOCI (EQTL) OF THE NATIVE POPULATIONS FROM PENINSULAR MALAYSIA: BRIDGING THE GENOMICS TO PHENOMICS FOR THE IMPLICATION OF EVOLUTIONARY AND PRECISION MEDICINE



Professor Dr Hoh Boon Peng

Professor Dr Hoh Boon Peng and his team members including Associate Professor Dr Renee Lim Lay Hoong, Assistant Professor Dr Yap Wai Sum, Associate Professor Dr Thuhairah Abdul Rahman (Faculty of Medicine UiTM), Dr Aletza Ismail (Faculty of Medicine UiTM), and Dr Azdayanti Muslim (Faculty of Medicine UiTM), were awarded by the Ministry of Higher Education (MOE) for the Fundamental Research Grant Scheme (FRGS) research project entitled, “Mapping Expression Quantitative Trait Loci (eQTL) of the Native Populations from Peninsular Malaysia: Bridging the Genomics to Phenomics for the Implication of Evolutionary and Precision Medicine” with the total amount allocation of RM177,000 in November 2021.

Mapping genetic factors that underlie human disease is challenging in the absence of comprehensive and accurate measurement of human traits (phenotypes), as well as dense genomic data. This is particularly

true to the Southeast Asia countries like Malaysia, whereby large scale genome-wide association studies are lacking. These challenges have become the major hindrance to materialising precision medicine. One way to respond to this is to identify genetic variants that may influence varying levels of gene activity (genetically termed as transcriptional activity, or gene expression). Since gene expression is key determinant of phenotypic variation, the emergence of the ‘expression Quantitative Trait Loci’ (eQTL) study has gained traction.

In the last few years, our team have unveiled the genomic and population structure of the native populations from Peninsular Malaysia, and identified many novel and population specific variants. However, understanding the genomic-phenomic interactions is still preliminary at present. Therefore, it is timely that we progress to characterise the transcriptional variations of the native populations. We hypothesise there are existence of population transcriptional variations between the native Negrito and Malay, owing to the unique genetic variations between these populations. Therefore, this study proposes to generate the transcriptional data, followed by genome-wide genomic data for the two populations. Associations between the genotyping data and the transcriptional levels will be quantified, and eQTL will be identified. In silico functional enrichment analyses will be performed to characterise the shared and unique biological functions among the eQTLs between the Negritos and Malays.

This study offers insights to the understanding of basic processes of gene regulation, which are important to identify predictive biomarkers of disease specifically to the natives in Southeast Asia region, therefore driving towards the implication of precision medicine approach in this country. This initiative is in line with the third and tenth sustainable development goals of provision of health and wellbeing for all and reducing inequalities in provision of healthcare.

FUNDAMENTAL RESEARCH GRANT SCHEME (FRGS) 2021: STANDARDISATION AND MECHANISM OF ACTION OF POLYHERBAL FORMULATION MM-24 FOR CUTANEOUS WOUND HEALING

Por Choo Shiuan, lecturer from the Faculty of Pharmaceutical Sciences, UCSI University and his team member, Professor Dr Nor Hadiani Bte Ismail, Associate Professor Dr Veeranoot Nissapatorn, Associate Professor Dr Mogana Sundari Rajagopal and Associate Professor Dr Gabriel Akyirem Akowuah have successfully secured a Fundamental Research Grant Scheme (FRGS) for their research project entitled "Standardisation and Mechanism of Action of Polyherbal Formulation MM-24 for Cutaneous Wound Healing". A grant amount of RM124,000 was awarded to the team for their research project. Their research involves the investigation into the mechanism of action of a polyherbal formulation for wound healing.



Por Choo Shiuan

The skin is the largest organ of human body, which acts as the first barrier of human defence system to prevent body against physical damages and pathogens. Wound healing is an important physiological process to protect our body from invasion of foreign substances and pathogens. Delayed wound healing happens when wounds fails to proceed from one phase to another phase. It greatly increases the risk of complications such as infection, tissue necrosis, haematomas, and dehiscence. Pain, pruritis, exudate and bad odour of non-healing wounds affect patients physically, psychologically, and socially. An approximate of \$5 billion was associated with lost work-hours due to wounds. Patients often distance themselves from friends and family due to embarrassment about their wound. Almost half of patients with chronic wound experience insomnia, stress, anxiety and depression of patient, which in turn affect wound healing process.

Wound healing is a highly systematic process consisting of 4 phases: homeostasis, inflammatory, proliferation and maturation. An untreated wound increases the risk of infection leading to severe complications. The current management of wound involves stopping the bleeding, wound debridement, antibiotic usage, and primary closure procedure, which are costly, labour intensive and time consuming. The global wound care market is projected to reach USD 24.8 billion by 2024. These warrants the need for cost-effective alternatives. Traditional treatment offers promising alternative but lacks evidence-based claims. The polyherbal formulation, MM-24 has been used among traditional healers for the treatment of wound healing. The objective of this study is to standardise MM-24 and its effects on wound healing will be investigated via established ex-vivo and in-vitro models. This study aims to develop evidence-based polyherbal formulation, which promotes wound healing through anti-inflammatory, antioxidant, reepithelialisation and angiogenesis activities.

CURRENT RESEARCH GRANT CALL, EXHIBITION AND SYMPOSIUM

| No. | Funding Scheme | Endorsement by CERVIE | Submission Closing Date |
|-----|---|--|----------------------------------|
| 1 | Malaysia Grand Challenge, MOSTI <ul style="list-style-type: none"> Applied Innovation Fund (AIF) Technology Development 1 Fund (TeD 1) Bridging Fund (BGF) MOSTI combatting COVID-19 Fund URL link: https://edana.mosti.gov.my/ | Open, no closing date as for now | Open, no closing date as for now |
| 6 | Malaysia Toray Science Foundation (MTSF) | 1 Jan 2022 | 31 May 2022 |
| No. | Exhibition(s) | Submission Closing Date | |
| 2 | International Invention, Innovation & Technology Exhibition (ITEX 2022) URL link: https://itex.com.my/ | 29 April 2021 CERVIE deadline 11 Mar 2022 | |
| No. | Symposium(s) | Abstract Submission Closing Date | |
| 1 | 5th International Conference on Tropical Medicine and Infectious Diseases (ICTMID) via Virtual Date: 23 – 25 Aug 2022 URL link: http://www.ictmid.com/ | 20 Jun 2022 | |

Please refer to your respective Head of Research for more information.

Advisor

Senior Professor Dr Phang Siew Moi

Editorial Board

Assistant Professor Dr Chew Yik Ling
 Assistant Professor Ts Dr Eugenie Tan
 Assistant Professor Dr Mark Kasa
 Assistant Professor Ts Dr Jonathan Yong Chung Ee
 Assistant Professor Ts Dr Thung Wei Eng
 Nursyafiqah Ramli
 Dr Wang Kang Han

CONTACT

Centre of Excellence for Research, Value
 Innovation and Entrepreneurship (CERVIE)
 10th Floor, Block G, UCSI University, No. 1, Jalan
 Menara Gading, UCSI Heights (Taman Connaught)
 56000 Cheras, Kuala Lumpur, Malaysia

Tel: +603-9101 8880 (ext: 2256)

Website:

<https://www.ucsiuniversity.edu.my/research>

If you have any comments on the published content, or if you want to contribute to the forthcoming issues, please send them to the contacts listed above. The editors reserve the right to edit any articles for clarity and space before publication. Opinions and views expressed in this publication are not necessarily those of CERVIE, nor do acceptance and publication of articles imply their endorsement.

CERVIE neither endorses nor is responsible for the accuracy or reliability of any opinion, advice or statement published in this Newsletter. Under no circumstances is the publisher liable for any loss or damage caused by anyone's reliance on the advice, opinion or information obtained either explicitly or implicitly from the content of this publication.