

## Institute of Bioscience

**Name** : Dr. Chan Kim Wei  
**Position** : Senior Research Officer  
**Email** : chankim@upm.edu.my  
**Tel** : +603-97692145  
**Field of expertise** : Food and Nutritional Sciences  
(Food Chemistry and Nutritional Biochemistry)



### Research Interests:

- Development of nutraceuticals and functional foods for metabolic disorders, oxidative stress and healthy aging
- Extraction, characterization and encapsulation of plant bioactives
- Investigation of the synergisms between different bioactives for the betterment of bioavailability and bioefficacy.
- Improvement of the food quality and shelf life with novel bioactives.

### List of Publications: H index = 18

- Chan, K.W.**, Ismail, M., Mohd Esa, N., Mohamed Alitheen, N.B., Imam, M.U., Ooi, D.J. & Khong, N.M.H. 2018. Defatted kenaf (*Hibiscus cannabinus* L.) seed meal and its phenolic-saponin-rich extract protect hypercholesterolemic rats against oxidative stress and systemic inflammation via transcriptional modulation of hepatic antioxidant genes. *Oxidative Medicine and Cellular Longevity*. Article ID 6742571.
- Chan, K.W.**, Ismail, M., Mohd Esa, N., Imam, M.U., Ooi, D.J. & Khong, N.M. 2018. Dietary supplementation of defatted kenaf (*Hibiscus cannabinus* L.) seed meal and its phenolics-saponins rich extract effectively attenuates diet-induced hypercholesterolemia in rats. *Food & Function*. 9, 925-936.
- Ooi, D.J., **Chan, K.W.**, Ismail, N., Imam, M.U. & Ismail, M. 2018. Polyphenol-rich ethyl acetate fraction of *Molineria latifolia* rhizome restores oxidant-antioxidant balance by possible engagement of KEAP1-NRF2 and PKC/NF- $\kappa$ B signalling pathways. *Journal of Functional Foods*. 42, 111-121.
- Sarega, N., Imam, M.U., Ooi, D-J., **Chan, K.W.**, Mohd Esa, N., Zawawi, N. & Ismail, M. 2016. Phenolic rich extract from *Clinacanthus nutans* attenuates hyperlipidemia-associated oxidative stress in rats. *Oxidative Medicine and Cellular Longevity*. Article ID 4137908.
- Imam, M.U., Ismail, M., Ooi, D-J, Azmi, N.H., Sarega, N., **Chan, K.W.** & Bhangar, M.I. 2016. Are bioactive-rich fractions functionally richer? *Critical Reviews in Biotechnology*. 36(4), 585-593.
- Chan, K.W.**, Iqbal, S., Khong, N.M.H., Ooi, D-J. & Ismail, M. 2014. Antioxidant activity of phenolics-saponins rich fraction prepared from defatted kenaf seed meal. *LWT- Food Science & Technology*. 56, 181-186.
- Chan, K.W.**, Khong, N.M. H., Iqbal, S., Ch'ng, S.E., Younas, U & Babji, A.S. 2014 Cinnamon Bark Deodorised Aqueous Extract (CinDAE) as potential natural antioxidant in meat emulsion system: A comparative study with synthetic and natural food antioxidants. *Journal of Food Science and Technology-Mysore*. 51 (11), 3269 – 3276.
- Chan, K.W.**, Khong, N.M.H., Iqbal, S., Mansor, S.M. & Ismail, M. 2013. Defatted kenaf seed meal (DKSM): Prospective edible flour from agricultural waste with high antioxidant activity. *LWT- Food Science & Technology*. 53(1), 308-313.
- Ismail, M., Al-Naqeep, G. & **Chan, K.W.** 2010. *Nigella sativa* thymoquinone-rich fraction greatly improves plasma antioxidant capacity and expression of antioxidant genes in hypercholesterolemic rats. *Free Radical Biology and Medicine*. 48 (5), 664-672.

10. **Chan, K.W.** & Ismail, M. 2009. Supercritical carbon dioxide fluid extraction of *Hibiscus cannabinus* L. Seed Oil: A potential solvent-free and high antioxidative edible oil. *Food Chemistry*. 114 (3), 970-975

#### List of Grants:

1. Development of novel functional meat products with cardioprotective properties and enhanced shelf-life quality by incorporation of defatted kenaf seed meal (DKSM) (Ministry of Science, Technology & Innovation, Malaysia (e-Science Fund)/ 2012-2015)
2. A single blind randomized control trial on "Anti-aging and cardio – protective properties of edible bird's nest in pre-menopause women" (Ministry of Agriculture & Agro-based Industry, Malaysia/ 2016-2019)
3. Nutraceutical properties and probiotic potential of stingless bee honey for establishment of quality markers against oxidative stress (Ministry of Higher Education, Malaysia (TRGS Phase 1/2016)/ 2016-2019)

#### List of Book/Book Chapter:

Maznah, I., **Chan, K.W.** & Mohd Yusri, N. 2009. Specialty oil from kenaf (*Hibiscus cannabinus* L.) seeds for health products. In Paridah, M.T., Luqman, C.A. & Norfaryanti, K. *Kenaf Biocomposites, Derivatives & Economics*: 124-132. Pustaka Prinsip Sdn. Bhd., Kuala Lumpur, Malaysia.

#### List of Patent:

1. Ismail, M., AI-Naqeeb, G., **Chan, K.W.** & Adna, R.N.E. Extraction of Fixed Oil & Thymoquinone Rich Fraction (TQRF): Malaysia (MY-162725-A, granted on 14.7.2017); India (301249, granted on 21.9.2018); Japan (JP5641521B2, granted on 17.12.2014); European Patent Office (EP2209879B1, granted on 22.11.2017); Hong Kong (HK1144825, granted on 29.10.2013); United States of America (US8501250B2, granted on 6.8.2013); China (CN101855330B, granted on 5.7.2014).
2. Ismail, M., **Chan, K.W.** & Ghafar, S.A. A Supercritical Fluid Extraction Process of Kenaf Seeds: Malaysia (MY-162712-A, granted on 14.7.2017); India (276524, granted on 24.10.2016); Japan (JP5584888B2, granted on 10.9.2014); United States of America (US8829214B2, granted on 9.9.2014); Mexico (295584, granted on 15.9.2015).