

CURRICULUM VITAE



Assoc. Prof. Ir. Dr.-Ing. Mohd Noriznan Mokhtar, CEng., MICHemE
Department of Process and Food Engineering
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Educations

Universities

Dr.-Ing. (*Magna Cum Laude*) in Chem. Process Eng., 2005 – 2009, Fakultät für Maschinenbau, Technische Universität Chemnitz, Germany

M.Sc. (*Gut*) in Chem. Eng., 2002 – 2004, Fakultät Bio- und Chemieingenieurwesen, Technische Universität Dortmund, Germany

B. Eng. (2nd Class-Upper, Hons) in Chem. and Process Eng., 1997 – 2000, Department of Chemical and Process Eng., Universiti Kebangsaan Malaysia

Areas of Interest

Process Engineering of biological/agricultural products (Reaction kinetics; Mass & heat transfers; Biological & separation technology; Dynamic mathematical modeling & simulation)

Professional Qualification/ Membership/ Affiliation

1. Professional Engineer (P.Eng.), Board of Engineers Malaysia
2. Professional Member, The Malaysian Society of Agricultural Engineers (MSAE)
3. Chartered Engineer (CEng.), UK
4. Member, Institution of Chemical Engineers (MICHemE)

Attachments

1. Industrial Attachment for P.Eng, Felda Palm Industries Sdn. Bhd., Kuala Lumpur (Co-composting of empty fruit bunches) (December 2010 – November 2011)
2. National Institution of Advanced Industrial Science and Technology (AIST), Kagami-Yama, Hiroshima, Japan (Bioethanol Production Pilot Plant) (September – October 2009)
3. Department of Microbiology and Bioprocess Technology (Prof. Dr. Wolfgang Zimmermann), Institut für Biochemie, Universität Leipzig, Germany (PhD research work) (August 2005 – January 2009)

Teaching Experiences

1. EPF 3801 Reaction Kinetics and Reactor Design (UG)
2. EPF 4301 Process Modeling and Simulation (UG)
3. EPF 3402 Chemical Engineering Thermodynamics (UG)
4. EPF 5605 Biochemical Reaction Engineering (PG)
5. EPF 3103 Biology for Engineers (UG)
6. EPF 4607 Biological Process Engineering (UG)
7. EPF 4802 Process and Food Plant Design (UG)

Appointments

Position	Duration
1. Associate Professor, Department of Process and Food Engineering, Faculty of Engineering, UPM	March 2017 – present
2. Senior Lecturer, Department of Process and Food Engineering, Faculty of Engineering, UPM	March 2009 – Feb. 2017
3. Tutor (Bioprocess Engineering), Department of Process and Food Engineering, Faculty of Engineering, UPM	Sept. 2000 – March 2009

4. Research Assistant (Environmental Eng.), Department of Chemical and Process Engineering, Faculty of Engineering, Universiti Kebangsaan Malaysia (UKM) April 2000 – Aug. 2000

Administrative Works (Department of Process and Food Engineering)

Position	Level	Date
1. Head of Department	Department	2015 – 2019
2. Research Coordinator	Department	2012 – 2014
3. Head of Bioreactor Engineering Laboratory	Department	2009 – 2014
4. Development Coordinator	Department	2009 – 2010
5. Head of Bioprocess Engineering Research Group	Department	2009 – 2012

Publications

1. M.T. Asghar, Y.A. Yusof, **M.N. Mokhtar**, M.E. Yaacob, H.M. Ghazali, J. Varith, L.S. Chang, Y.N. Manaf, Processing of Coconut Sap into Sugar Syrup using Rotary Evaporation, Microwave and Open-Heat Evaporation Techniques, *Journal of the Science of Food and Agriculture* 100, 4012 – 4019 (2020)
2. N.A. Zukifli, N.M. Salleh, M.Z.M. Nor, F.N. Omar, A. Sulaiman, **M.N. Mokhtar**, Nutritional properties of orange-fleshed sweet potato juice, *Advanced in Agricultural and Food Research Journal* 1 (1) (2020)
3. A.A. Lawal, M.A. Hassan, M.A.A. Farid, T.A.T. Yasim-Anuar, M.Z.M. Yusoff, M.R. Zakaria, A.M. Roslan, **M.N. Mokhtar**, Y. Shirai, Production of biochar from oil palm frond by steam pyrolysis for removal of residual contaminants in palm oil mill effluent final discharge, *Journal of Cleaner Production* 265, 121643 (2020)
4. A.A. Lawal, M.A. Hassan, M.A.A. Farid, T.A.T. Yasim-Anuar, M.Z.M. Yusoff, M.R. Zakaria, A.M. Roslan, **M.N. Mokhtar**, Y. Shirai, One-step steam pyrolysis for the production of mesoporous biochar from oil palm frond to effectively remove phenol in facultatively treated palm oil mill effluent, *Environmental Technology & Innovation* 18, 100730 (2020)
5. M.T. Asghar, Y.A. Yusof, **M.N. Mokhtar**, M.E. Yaacob, H. M. Ghazali, L.S. Chang, Y.N. Manaf, Effect of processing method on vitamin profile, antioxidant properties and total phenolic content of coconut (*Cocos nucifera* L.) sugar syrup, *International Journal of Food Science & Technology* 55, 2762 – 2770 (2020)
6. S.A.E. Moghaddam, R. Harun, **M.N. Mokhtar**, R. Zakaria, Kinetic and equilibrium modeling for the biosorption of metal ion by Zeolite 13X-Algal-Alginate Beads (ZABs), *Journal of Water Process Engineering* 33, 101057 (2020)
7. A.T. Talib, C.C. Jie, M.A.P. Mohammed, A.S. Baharuddin, **M.N. Mokhtar**, M. Wakisaka, On the nonlinear viscoelastic behaviour of fresh and dried oil palm mesocarp fibres, *Biosystems Engineering* 186, 307 – 322 (2019)
8. A.T. Talib, M.A.P. Mohammed, A.S. Baharuddin, **M.N. Mokhtar**, M. Wakisaka, Mechanical characterisation of lignocellulosic fibres using toy bricks tensile tester, *Journal of the Mechanical Behavior of Biomedical Materials* 97, 58 – 64 (2019)
9. S.A.E. Moghaddam, R. Harun, **M.N. Mokhtar**, R. Zakaria, Stability improvement of algal-alginate beads by zeolite molecular sieves 13X, *International Journal of Biological Macromolecules* 132, 592 – 599 (2019)
10. N.S. Abd Rasid, M.N. Naim, H.C. Man, N.F.A. Bakar, **M.N. Mokhtar**, Evaluation of surface water treated with lotus plant; *Nelumbo nucifera*, *Journal of Environmental Chemical Engineering* 7, 103048 (2019)
11. U.E. Shehu, **M.N. Mokhtar**, M.Z.M. Nor, A.S. Baharuddin, N.M. Nawati, A study on the use of water as a medium for the thermal inactivation of endogenous lipase in oil of palm fruit, *Energies* 12, 3981 (2019)
12. M.T. Asghar, Y.A. Yusof, **M.N. Mokhtar**, M.E. Ya'acob, H.M. Ghazali, L.S. Chang, Y.N. Manaf, Coconut (*Cocos nucifera* L.) sap as a potential source of sugar: Antioxidant and nutritional properties, *Food Science & Nutrition* 00, 1-11 (2019)
13. U.E. Shehu, T.Q. Chow, H.S. Hafid, **M.N. Mokhtar**, A.S. Baharuddin, N.M. Nawati, Kinetics of thermal hydrolysis of crude palm oil with mass and heat transfer in a closed system, *Food and Bioprocess Processing* 118, 187 – 197 (2019)
14. S. Sulaiman, **M.N. Mokhtar**, M.Z.M. Nor, K.F.M. Yunus, M.N. Naim, Mass transfer with reaction kinetics of the biocatalytic membrane reactor using a fouled covalently immobilised enzyme layer (α -CGTase–CNF layer), *Biochemical Engineering Journal* 152, 107374 (2019)

15. M.A. Adam, A. Sulaiman, A.S. Baharuddin, **M.N. Mokhtar**, K. Subbian, M. Tabatabaei, Characterization of delignified oil palm decanter cake (OPDC) for polymer composite development, *International Journal on Advanced Science, Engineering and Information Technology* 9, 384 – 389 (2019)
16. U.E. Shehu, A.S. Baharuddin, N.M. Naw, **M.N. Mokhtar**, Modelling and simulation of heat penetration in palm fruitlets during thermal treatment process, *Food Research* 3, 145 – 150 (2019)
17. S.A.E. Moghaddam, R. Harun, **M.N. Mokhtar**, R. Zakaria, Preliminary study on zeolite 13X as a potential carrier for algal immobilization, *Journal of Advanced Research in Materials Science* 53, 1-5 (2019)
18. M.Y. Hasan, M.A. Hassan, **M.N. Mokhtar**, A. Idris, Y. Shirai, Z. Dzulkarnain, M.H. Samsudin, M.H.M. Zainudin, Periodic addition of anaerobic sludge enhanced the lignocellulosic degradation rate during co-composting of oil palm biomass, *Asian Pacific Journal of Molecular Biology & Biotechnology* 26, 1-10 (2018)
19. K.Y. Phoon, H.S. Ng, R. Zakaria, H.S. Yim, **M.N. Mokhtar**, Enrichment of minor components from crude palm oil and palm-pressed mesocarp fibre oil via sequential adsorption-desorption strategy, *Industrial Crops and Products* 113, 187–195 (2018)
20. H.S. Hafid, N.A. Rahman, **M.N. Mokhtar**, A.T. Talib, A.S. Baharuddin, U.K.M. Shah, Over production of fermentable sugar for bioethanol production from carbohydrate-rich Malaysian food waste via sequential acid-enzymatic hydrolysis pretreatment, *Waste Management* 67, 95 – 105 (2017)
21. S. Saallah, M.N. Naim, **M.N. Mokhtar**, N.F.A. Bakar, M. Gen, I.W. Lenggoro, Preparation and Characterisation of Cyclodextrin Glucanotransferase Enzyme Immobilised in Electrospun Nanofibrous Membrane, *Journal of Fiber Science and Technology* 73 (10), 251-260 (2017) (Scopus)
22. M.A. Adam, A. Sulaiman, N.F.A.A. Pahmy, **M.N. Mokhtar**, M. Tabatabaei, K. Subbian, The Effects of MAPP and OPDC on Physical and Mechanical Properties of OPDC-RPC, *Journal of Mechanical Engineering* 2 (2), 83-97 (2017)
23. N.A. Adam, A. Sulaiman, A.S. Baharuddin, **M.N. Mokhtar**, Z. Busu, T.E.T.Z. Mulok, Synthesis and Characterisation of Silica from Palm Oil Fuel Ash (POFA) Using Alkaline Fusion Method, *Pertanika Journal of Science and Technology* 25, 269-276 (2017)
24. J. Andrew, A. Sulaiman, **M.N. Mokhtar**, A.S. Baharuddin, NM Daud, Development of Palm Oil Extraction Performance Index (EPI) Based on Oil Extraction Rate (OER) and Oil Loss (OL), *Pertanika Journal of Science and Technology* 25, 335-344 (2017)
25. N.L. Cieh, S. Sulaiman, **M.N. Mokhtar**, M.N. Naim. Bleached kenaf microfiber as a support matrix for cyclodextrin glucanotransferase immobilization via covalent binding by different coupling agents, *Process Biochemistry* 56, 81-89 (2017)
26. S. Sulaiman, N.L. Cieh, **M.N. Mokhtar**, M.N. Naim, S.M.M. Kamal. Covalent immobilization of cyclodextrin glucanotransferase on kenaf cellulose nanofiber and its application in ultrafiltration membrane system, *Process Biochemistry* 55, 85 – 95 (2017)
27. N.S.H.M. Yunus, C.J. Chu, A.S. Baharuddin, **M.N. Mokhtar**, A. Sulaiman, M.A. Rajaeifar, Y.N. Larimi, A.F. Talebi, M. A.P. Mohammed, M. Aghbashlo, M. Tabatabaei. Enhanced oil recovery and lignocellulosic quality from oil palm biomass using combined pretreatment with compressed water and steam, *Journal of Cleaner Production* 142, 3834 – 3849 (2017)
28. N.L. Mohamad, S.M.M. Kamal, **M.N. Mokhtar**, S.A. Husain, N. Abdullah. Dynamic mathematical modelling of reaction kinetics for xylitol fermentation using *Candida tropicalis*, *Biochemical Engineering Journal* 111, 10-17 (2016)
29. S. Saallah, M.N. Naim, I.W. Lenggoro, **M.N. Mokhtar**, N.F.A. Bakar, M. Gen. Immobilisation of cyclodextrin glucanotransferase into polyvinyl alcohol (PVA) nanofibres via electrospinning. *Biotechnology Reports* 10, 44-48 (2016)
30. S. Sulaiman, **M.N. Mokhtar**, M.N. Naim, A.S. Baharuddin, M.A.M. Salleh, A. Sulaiman. Development of cellulose nanofibre (CNF) derived from kenaf bast fibre and it's potential in enzyme immobilization support, *Malaysian Journal of Analytical Sciences* 20 (2), 309 – 317 (2016)
31. S. Sulaiman, **M.N. Mokhtar**, M.N. Naim, A.S. Baharuddin, M.A.M. Salleh, A. Sulaiman. Study on the preparation of cellulose nanofibre (CNF) from kenaf bast fibre for enzyme immobilization application. *Sains Malaysiana* 44, 1541 – 1550 (2015)
32. W.S.S.A.W. Sharifudin, A. Sulaiman, **N. Mokhtar**, A.S. Baharuddin, M. Tabatabaei, Z. Busu, K. Subbian. Presence of residual oil in relation to solid particle distribution in palm oil mill effluent, *BioResources* 10, 7591-7603 (2015) (
33. N. Sahad, A.M. Som, A.S. Baharuddin, **N. Mokhtar**, Z. Busu, A. Sulaiman. Recovery of residual crude palm oil (RCPO) from oil palm decanter cake (OPDC) using D-limonene, *Advanced Materials Research* 1113, 405-410 (2015)

34. J.C. Gomez, **M.N. Mokhtar**, A. Sulaiman, A.S. Baharuddin, Z. Busu. Recovery of residual crude palm oil from the empty fruit bunch spikelets using environmentally friendly processes, *Separation Science and Technology*, 50, 1677 – 1683 (2015)
35. J.C. Gomez, **M.N. Mokhtar**, A. Sulaiman, R. Zakaria, A.S. Baharuddin, Z. Busu. Study on residual oil recovery from empty fruit bunch by combination of water and steam process, *Journal of Food Process Engineering* 38, 385 – 394 (2015)
36. S. Sulaiman, **M.N. Mokhtar**, M.N. Naim, A.S. Baharuddin, A. Sulaiman. A review: potential usage of cellulose nanofibers (CNF) for enzyme immobilization via covalent interactions, *Applied Biochemistry and Biotechnology* 175, 1817-1842 (2015)
37. N.S.H.M. Yunos, A.S. Baharuddin, K.F.M. Yunos, H.S. Hafid, Z. Busu, **M.N. Mokhtar**, A. Sulaiman, A.M. Som. The physicochemical characteristics of residual oil and fibers from oil palm empty fruit bunches, *BioResources* 10, 14-29 (2015)
38. M.A.K.M. Zahari, H. Ariffin, **M.N. Mokhtar**, J. Salihon, Y. Shirai, M.A. Hassan. Case study for a palm biomass biorefinery utilizing renewable non-food sugars from oil palm frond for the production of poly (3-hydroxybutyrate) bioplastic, *Journal of Cleaner Production* 87, 284–290 (2015)
39. N.L. Mohamad, S.M.M. Kamal, **M.N. Mokhtar**. Xylitol biological production: a review of recent studies, *Food Reviews International* 31, 74-89 (2015)
40. A.T. Talib, **M.N. Mokhtar**, A.S. Baharuddin, A. Sulaiman. Effects of aeration rate on degradation process of palm empty fruit bunch with kinetic-dynamic modeling. *Bioresource Technology*, 169, 428 – 438 (2014)
41. S. Saallah, M.N. Naim, **M.N. Mokhtar**, N.F.A. Bakar, M. Gen, I.W. Lenggoro. Transformation of cyclodextrin glucanotransferase (CGTase) from aqueous suspension to fine solid particles via electrospraying. *Enzyme and Microbial Technology*, 64-65, 52 – 59 (2014)
42. M.F. Zainuddin, R. Shamsudin, **M.N. Mokhtar**, D. Ismail. Physicochemical properties of pineapple plant waste fibers from the leaves and stems of different varieties. *BioResources* 9, 5311 – 5324 (2014)
43. N. Sahad, A.M. Som, A.S. Baharuddin, **M.N. Mokhtar**, Z. Busu, A. Sulaiman. Physicochemical characterization of oil palm decanter cake (OPDC) for residual oil recovery. *BioResources* 9, 6361 – 6372 (2014)
44. M.A. Adam, A. Sulaiman, C.M.S. Said, A.M. Som, A.S. Baharuddin, **M.N. Mokhtar**. Preliminary study of oil palm decanter cake natural polymer composite (OPDC-NPC). *Advanced Materials Research*, 911, 40 – 44 (2014)
45. N.A. Edama, A. Sulaiman, K.H.K. Hamid, S.N.A. Rahim, A.S. Baharuddin, **M.N. Mokhtar**. Encapsulation of multi-enzymes on waste clay material: preparation, characterization and application for tapioca starch hydrolysis. *Applied Mechanics and Materials*, 548, 77 – 82 (2014)
46. A. Sulaiman, N. Othman, A.S. Baharuddin, **M.N. Mokhtar**, M. Tabatabaei. Enhancing the halal food industry by utilizing food wastes to produce value-added bioproducts. *Procedia-Social and Behavioral Sciences* 121, 35-43 (2014)
47. H.S. Ng, C.W. Ooi, P.L. Show, C.P. Tan, A. Ariff, **M.N. Mokhtar**, E.P. Ng, T.C. Ling. Recovery of *Bacillus cereus* cyclodextrin glycosyltransferase using ionic liquid-based aqueous two-phase system, *Separation and Purification Technology* 138, 28–33 (2014)
48. W.A.W. Razali, A.S. Baharuddin, L.A. Zaini, **M.N. Mokhtar**, F.S. Taip, R. Zakaria. Effect of seed sludge quality using oil palm empty fruit bunch (OPEFB) bio-char for composting. *BioResources* 9, 2739 – 2756 (2014)
49. S.N.A. Rahim, A. Sulaiman, N.A. Edama, A.S. Baharuddin, **M.N. Mokhtar**. Factorial design analysis of a tapioca slurry saccharification process using encapsulated enzymes. *BioResources* 9, 3361 – 3368 (2014)
50. M.S. Mohamed, J.S. Tan, S. Kadkhodaei, R. Mohamad, **M.N. Mokhtar**, A.B. Ariff. Kinetic and modeling of microalga *Tetraselmis* sp. FTC 209 growth with respect to its adaption toward different tropic conditions. *Biochemical Engineering Journal* 88, 30 – 41 (2014)
51. H.S. Ng., C.W. Ooi, **M.N. Mokhtar**, P.L. Show, A. Ariff, J.S. Tan, E.P. Ng, T.C. Ling. Extractive bioconversion of cyclodextrins by *Bacillus cereus* cyclodextrin glycosyltransferase in aqueous two-phase system. *Bioresource Technology* 142, 723 – 726 (2013)
52. A.S. Baharuddin, A. Sulaiman, D.H. Kim, **M.N. Mokhtar**, M.A. Hassan, M. Wakisaka, Y. Shirai, H. Nishida. Selective component degradation of oil palm empty fruit bunches (OPEFB) using high-pressure steam. *Biomass & Bioenergy* 55, 268 – 275 (2013)
53. M.S. Mohamed, J.S. Tan, R. Mohamad, **M.N. Mokhtar**, A. Ariff. Comparative analyses of response surface methodology and artificial neural network on medium optimization for *Tetraselmis* sp. FTC209 grown under mixotrophic condition. *The Scientific World Journal*, ID 948940 (2013)

54. S. Shahrazi, S. Saallah, **M.N. Mokhtar**, A.S. Baharuddin, K.F.M. Yunos. Dynamic mathematical modeling of reaction kinetics for cyclodextrins production from different starch sources using *Bacillus macerans* cyclodextrin glucanotransferase. *American Journal of Biochemistry and Biotechnology* 9(2), 195 – 205 (2013)
55. N. Abdullah, N.L. Chin, **M.N. Mokhtar**, F.S. Taip. Effects of bulking agents, load size or starter cultures in kitchen-waste composting. *International Journal of Recycling of Organic Waste in Agriculture* 2(3), 1 -10 (2013)
56. M.A.K.M. Zahari, H. Ariffin, **M.N. Mokhtar**, J. Salihon, Y. Shirai, M.A. Hassan, Factors affecting poly(3-hydroxybutyrate) production from oil palm frond juice by *Cupriavidus necator* (CCUG52238). *Journal of Biomedicine and Biotechnology*, ID 125865 (2012) (current: *Biomed Res Int*)
57. M.A.K.M. Zahari, M.R. Zakaria, H. Ariffin, **M.N. Mokhtar**, J. Salihon, Y. Shirai, M.A. Hassan. Renewable sugars from oil palm frond juice as an alternative novel fermentation feedstock for value-added products. *Bioresource Technology* 110, 566 - 571 (2012)
58. H.S. Ng, C.P. Tan, **M.N. Mokhtar**, S. Ibrahim, A. Ariff, C.W. Ooi, T.C. Ling. Recovery of *Bacillus cereus* cyclodextrin glycosyltransferase and recycling of phase components in an aqueous two-phase system using thermo-separating polymer. *Separation and Purification Technology* 89, 9 – 15 (2012)
59. F. Ellouze, N.B. Amar, **M.N. Mokhtar**, W. Zimmermann, A. Deratani. Fractionation of homologous CD6 to CD60 cyclodextrin mixture by ultrafiltration and nanofiltration. *Journal of Membrane Science* 374(1-2), 129 – 137 (2011)
60. H.S. Ng, C.P. Tan, S.K. Chen, **M.N. Mokhtar**, A. Ariff, T.C. Ling. Primary capture of cyclodextrin glycosyltransferase derived from *Bacillus cereus* by aqueous two phase system. *Separation and Purification Technology* 81(3), 318 – 324 (2011)
61. M.N. Ahmad, **M.N. Mokhtar**, A.S. Baharuddin, L.S. Hock, S.R.A. Ali, S. Abd-Aziz, N.A.A. Rahman, M.A. Hassan. Changes in physicochemical and microbial community during co-composting of oil palm frond with palm oil mill effluent anaerobic sludge. *BioResources* 6(4), 4762 – 4780 (2011)
62. Q. Qi, **M.N. Mokhtar**, W. Zimmermann. Effect of ethanol on the synthesis of large-ring cyclodextrins by cyclodextrin glucanotransferase. *Journal of Inclusion Phenomena and Macrocyclic Chemistry* 57(1-4), 95 – 99 (2007)

Conference Posters / Proceedings

1. S.N. Sulin, **M.N. Mokhtar**, Residual crude palm oil resources and recovery method: A Review, MSAE Convension, 21 March 2019, Putrajaya
2. N.A. Zulkifli, M.Z.M. Nor, **M.N. Mokhtar**, A Sulaiman, Strategies for sustainable production of starch from sweet potato, MSAE Convension, 21 March 2019, Putrajaya
3. M.N. Mokhtar, Dynamic mathematical modeling and simulation of militube sterilization process, CAFEi2018, 7-9 November 2018, Putrajaya
4. **M.N. Mokhtar**, Biochemical reaction engineering in biological processes, International Conference on Chemical and Process Plant Engineering (ICCPPE2018), 26 July 2018, Petaling Jaya
5. L.C. Ng, S. Sulaiman, **M.N. Mokhtar**, M.N. Naim, A.S Baharuddin. Immobilization of cyclodextrin glucanotransferase from *Bacillus macerans* on bleached kenaf bast micro-fibre, International Conference on Agricultural and Food Engineering (CAFEi 2016), 23 – 25 August 2016, Kuala Lumpur
6. K.Y. Phoon, H.S. Ng, **M.N. Mokhtar**, R. Zakaria, H.S. Yim. Enrichment of vitamin E from crude palm oil by adsorption-desorption process, International Conference on Agricultural and Food Engineering (CAFEi 2016), 23 – 25 August 2016, Kuala Lumpur
7. S. Rahmam, M.N. Naim, **M.N. Mokhtar**, N.F.A Bakar. The solidification of encapsulated jasmine extract using electrostatic atomizer (electrospray), International Conference on Agricultural and Food Engineering (CAFEi 2016), 23 – 25 August 2016, Kuala Lumpur
8. A.T. Talib, **M.N. Mokhtar**, A.S. Baharuddin. Mathematical modeling of co-composting of oil palm empty fruit bunch, The 7th International Conference on Sustainable Agriculture for Food, Energy and Industry in Regional and Global Context (ICSAFEI 2015), 25 – 27 August 2015, Universiti Putra Malaysia
9. S. Sulaiman, **M.N. Mokhtar**, M.N. Naim, A.S. Baharuddin, M.A.M. Salleh, A. Sulaiman. Chemical-Mechanical treatment effects on cellulose nanofiber (CNF) from kenaf as a support for covalent immobilization of CGTase enzyme, The 7th International Conference on Sustainable Agriculture for Food, Energy and Industry in Regional and Global Context (ICSAFEI 2015), 25 – 27 August 2015, Universiti Putra Malaysia

10. S. Sulaiman, **M. N. Mokhtar**, M. N. Naim, A. S. Baharuddin, M. A. M. Salleh, A. Sulaiman. Study on the preparation of cellulose nanofibre (CNF) derived from kenaf bast fibre for the application of enzyme immobilization, Conference on Nano- & Bioresource Technology 2015, 28 – 29 March 2015, Universiti Kebangsaan Malaysia
11. M.A.K.M. Zahari, **M.N. Mokhtar**, H. Ariffin, Y. Shirai, M.A. Hassan. Case study for a palm biomass biorefinery utilizing renewable sugars from oil palm frond for the production of poly(3-hydroxybutyrate) bioplastic. The 13th Annual International Symposium on Bioplastics, Biocomposites and Biorefinery: Moving Towards a Sustainable Bioeconomy, 19 – 24 May 2014, Guelph, Kanada
12. M.F. Zainuddin, R. Shamsuddin, **M.N. Mokhtar**, I. Dahlan. Effect of moisture content on tensile strength of pineapple waste pellet, National Conference on Agricultural and Food Mechanization 2014, 20 – 22 May 2014, Kota Kinabalu, Sabah
13. S. Saallah, M.N. Naim, **M.N. Mokhtar**. Preparation and application of CGTase in nanobiocatalyst system. Concluding Workshop on 'Novel amyloamylases for the synthesis of large-ring cyclodextrins', 20 – 22 February 2013, Chulalongkorn University, Bangkok, Thailand
14. H. S. Ng, T. C. Ling, **M. N. Mokhtar**. Separations of cyclodextrins using aqueous two-phase system (ATPS), International Conference on Agricultural and Food Engineering 2012 (Cafei 2012), 26-28 November 2012, Palm Garden Hotel IOI Resort, Putrajaya, Malaysia
15. M.H. Asr, M.N. Ibrahim, **M.N. Mokhtar**, K.F.M. Yunos, N.A. Ibrahim. Selected properties of oil palm kernel, International Conference on Agricultural and Food Engineering 2012 (Cafei 2012), 26-28 November 2012, Palm Garden Hotel IOI Resort, Putrajaya, Malaysia
16. M.F. Zulkifli, U.K.M. Shah, **M.N. Mokhtar**, R. Mohamad. Effect of gas flow rate on recovery of acetone-butanol-ethanol (ABE) via gas stripping, 31st Symposium of the Malaysia Society for Microbiology, 13 – 15 December 2012, Kota Kinabalu, Sabah, Malaysia
17. M.F. Zulkifli, U. K. M. Shah, R. Mohamad, **M.N. Mokhtar** and N.A.M. Remli. Utilization of rice straw hydrolysate for Acetone- Butanol-Ethanol production by *Clostridium acetobutylicum* ATCC 824. International Congress of the Malaysia Society for Microbiology 2011, 8 – 11 December 2011, Penang, Malaysia
18. **M.N. Mokhtar**. Biocatalytic production of large-ring cyclodextrins. In Kick-off Workshop 'Novel amyloamylases for the synthesis of large-ring cyclodextrins', October 13 – 15, 2008, University of Leipzig, Germany
19. **M. N. Mokhtar**, M. Gruner and W. Zimmermann. Optimization of biocatalytic synthesis of large-ring cyclodextrins. Tagung der VAAM/GBM, March 9 –11, 2008, Frankfurt, Germany
20. **M. N. Mokhtar**, M. Gruner and W. Zimmermann. Optimization of biocatalytic synthesis of large-ring cyclodextrins. Sächsischer Biotechnologietag, November 28, 2007, Dresden, Germany
21. Q. Qi, **M. N. Mokhtar** and W. Zimmermann. Effects of Ethanol on the Synthesis of Large-Ring Cyclodextrin by Cyclodextrin Glucanotransferase. 5th Biotechnology Symposium, May 18-19, 2006, Center for Biotechnology and Biomedicine, Leipzig, Germany
22. Q. Qi, **M. N. Mokhtar** and W. Zimmermann. Effects of Ethanol on the Synthesis of Large-Ring Cyclodextrin by Cyclodextrin Glucanotransferase. XIII International Cyclodextrins Symposium, May 14-17, 2006, Turin, Italy
23. **M. N. Mokhtar** and W. Zimmermann. Biocatalytic Synthesis of Large-Ring Cyclodextrins. 4th Leipzig Research Festival for Life Sciences, December 16, 2005, Leipzig, Germany

Patents

1. A.S. Baharuddin, A. Sulaiman, **M.N. Mokhtar**, N.S.H.M. Yunos, J.H.C. Gomez, A.M. Som, Z. Busu, R. Yunus, C.C. Jie. Palm Oil Recovery. UI 2015701621, Malaysia Patent Application (2015)
2. **M.N. Mokhtar**, A. Sulaiman, A.S. Baharuddin, J.H.C. Gomez, Z. Busu, R. Yunus. A Method for Crude Oil Removal from Empty Fruit Bunches. PI2014701620, Malaysia Patent Application (2014)
3. M. A. Hassan, A.S. Baharuddin, L.S. Hock, A. Sulaiman, M. Z. M. Yusoff, E. K. Bharin, **M.N. Mokhtar**, H. Nishida, Y. Shirai, M. Wakisaka. A Method for Treating Oil Palm Biomass. PI2011000731, Malaysia Patent Application (2011)
4. M.A. Hassan, H. Ariffin, M.A.K.M. Zahari, M.R. Zakaria, J. Salihon, **M.N. Mokhtar**, Y. Shirai. Renewable Sugars from Oil Palm Waste. PI2011004440, Malaysia Patent Application (2011)
5. W. Zimmermann, **M.N. Mokhtar**, K.-U. Lauckner. Process for the preparation of cyclodextrins composed of more than eight glucose units. European Patent Application EP 09153819.9 (2009)

Chapter in Books (If any)

1. N. Abdullah, N.L. Chin, **M.N. Mokhtar**, F.S. Taip. Effects of bulking agents, load size or starter cultures in kitchen-waste composting. In 'Biological Treatment of Solid Waste', E.C. Rada (Editor). CRC Press, Boca Raton (2016)

Research Grants					
Project Title (Project Leader)	Amount (RM)	Year	Source of Fund	Status	
1. Process development of starch and by-products from sweet potatoes	139,000	2018 - 2021	GP-IPB (RMC-UPM)	Ongoing	
2. Development of novel immobilized biocatalyst system for interesterification of RBD palm oil	25,000	2018 - 2020	GP-IPS (RMC-UPM)	Completed	
3. Evaluation on post-harvesting and processing of fresh fruit bunch towards minimizing free fatty acids accumulation in palm fruitlet and crude palm oil	25,000	2018 - 2020	GP-IPS (RMC-UPM)	Completed	
4. Evaluation of reaction kinetic with mass transfers in enzymatic membrane reactor using cellulose nanofiber fouling technique	50,000	2017 - 2019	GP (RMC-UPM)	Completed	
5. Production of biodiesel from recovered residual oil in palm oil milling process	54,000	2017-2020	Matching Grant UPM-Kyutech	Completed	
6. Study on surface modification of kenaf micro- and nanofibers for enhancing enzyme immobilization loading and stability	15,000	2014-2016	GP-IPS (RMC-UPM)	Completed	
7. Cellulose nanofiber as a potential support for immobilization of cyclodextrin glucanotransferase via covalent binding	118,700	2014-2016	FRGS (KPT)	Completed	
8. Subtopic: Recovery of crude palm oil from empty fruit bunch and unstripped fruit bunch	238,658	2012-2017	LRGS (KPT)	Completed	
9. Development of nano-biocatalyst system from kenaf based cellulose nanofibres (CNF)	15,000	2014-2016	GP-IPS (RMC-UPM)	Completed	
10. Development of nanofiber biocatalyst system	172,000	2012-2014	Sciencefund (MOSTE)	Completed	
11. Study of reaction kinetic with and energy transfers of aerobic composting in a closed system	44,000	2010-2012	FRGS (KPT)	Completed	
12. Study of adsorption process and implementation of periodic rotary adsorption for separating bioproduct	30,000	2009-2011	RUGS	Completed	

Student Supervision

PhD (Main Supervisor)			
	Name	Title	Status
1.	Siti Naderah Sulin	Sustainability design of palm oil mill toward zero 3-MCPD and GE precursors	Ongoing
2.	Ng Lin Cieh	Production of MAG from residual palm oil using enzyme immobilization technology	Ongoing
3.	Nur Shakira Sahat	Enzymatic interesterification of palm oil using fouled nanofiber-lipase on membrane reactor	Ongoing
4.	Dr. Umar Etsu	Dynamic modeling and process simulation of saturated steam penetration within oil palm fresh fruit bunches	Graduated (2020)
5.	Dr. Mina Habibiasr	Physicoproperties of palm kernel and mathematical modeling of its dehydration process	Graduated (2020)
6.	Dr. Safwan Sulaiman	Preparation, characterizations and application of immobilized cyclodextrin glycosyltransferase on cellulose nanofiber	Graduated (2018)
7.	Dr. Ng Hui Suan	Application of aqueous two-phase system on recovery of <i>Bacillus cereus</i> cyclodextrin glycosyltransferase and cyclodextrins	Graduated (2013)

PhD (Co-Supervisor)			
	Name	Title	Status
1.	Nurul Ainina Zulkifli	Sustainable design of starch and by-products production from local sweet potato	Ongoing
2.	Lawal Abubakar Abdullahi		Ongoing
3.	Asghar Muhammad Tuseef	Processing of coconut SAP into syrup and granular sugar using different evaporation techniques for economical production	Ongoing
4.	Chu Chang Jie		Ongoing
5.	Javier Hernando Chavarro Gómez	Synthesis of polyurethanes from EFB recovered oil with algae oil as additive for food packaging applications	Completed (2020)
6.	Dr. Seyed Amirebrahim Emami Moghaddam	Potential of zeolite and algae in biomass immobilization	Graduated (2019)
7.	Ahmad Tarmezee Talib	Biomechanics of oil palm fibre biodegradation	Ongoing
8.	Sarah Idris	Characterization of local cassava (<i>Manihot Esculenta</i>) and flour processing	Ongoing
9.	Syuhaidah Rahman	Encapsulation of bioactive compound from jasmine flower using beta-cyclodextrin via electrospray	Completed (2020)
10.	Dr. Loo Yu Xiang	Production of biosugar from oil palm empty fruit bunches stalk	Graduated (2019)

PhD (Co-Supervisor)			
	Name	Title	Status
11.	Thang Yin Mee	Optimization of sterilization process by monitoring the chemical changes of binding carbohydrate in oil palm fruit and fruit stalk	Completed (2020)
12.	Dr. Muhamad Yusuf Hassan	Compost hybrid modeling of organic waste	Graduated (2020)
13.	Dr. Nurul Lina Mohamad	Fermentation modeling for production of xylitol from D-xylose	Graduated (2018)
14.	Dr. Mohd Shamzi Mohamed	Modeling and engineering design of multiple impeller system for pilot scale fermentation	Graduated (2014)
15.	Dr. Mior Ahmad Khushairi Mohd Zahari	Production of polyhydroxyalkanoates (PHA) from oil palm fronds	Graduated (2013)

MS with thesis (Main Supervisor)			
	Name	Title	Status
1.	Ng Lin Cieh	Preparation of immobilized cyclodextrin glucanotransferase on kenaf fiber support	Graduated (2018)
2.	Phoon Kah Yee	Enrichment of tocopherol and tocotrienol from crude palm by adsorption-desorption process	Graduated (2018)
3.	Shahinaz Shahrazi	Mathematical modeling of biocatalytic production of cyclodextrins and their adsorption process	Graduated (2015)
4.	Ahmad Tarmezee Talib	Dynamic mathematical modeling and simulation of co-composting from rabbit manure and oil palm empty fruit bunches	Graduated (2015)
5.	Javier Hernando Chavarro Gómez	Residual oil removal from empty fruit bunches using water and steam processes	Graduated (2014)
6.	Syaiful Nizam Kamaruddin	Kinetic modeling of biogas fermentation	Dropped (2011)

MS with thesis (Co-Supervisor)			
	Name	Title	Status
1.	Noor Seribainun Hidayah Md Yunos	Residual oil removal from oil palm empty fruit bunches utilizing high pressure steam	Graduated (2015)
2.	Muhammad Fakhri Zainuddin	Pineapple agro-waste as potential feed for herbivore	Graduated (2015)
3.	Mohamad Firdaus Zulkifli	Production and recovery of biobutanol from rice straw using clostridium sp.	Graduated (2014)
4.	Wan Aizuddin Wan Razali	Baseline study of accelerated and controlled semi commercial scale composting plant	Graduated (2014)
5.	Norazlin Abdullah	Optimization of food waste composting	Graduated (2011)
6.	Yeoh Chui Yen	Composting of palm oil mill waste by additional of microbes mixture	Graduated (2011)

Final year project for Bachelor (Main-Supervisor)

	Name	Title	Status
1.	Nur Artiqah Ideris	Study on comparison between batch, continuous and semi-continuous palm oil milling	Graduated (2020)
2.	Nor Zalifah Razali	Thermal sterilization of sugarcane juice by capillary tube	Graduated (2020)
3.	Nurhanisah Mohammed Salleh	Extraction and concentration of sweet potato juice	Graduated (2019)
4.	Ho Yik Jeng	Sweet potato juice clarification by immobilized pectinase on sodium alginate-cellulose nanoparticles	Graduated (2018)
5.	Norshuhadah Shahdan	Sweet potato – glucose production by using immobilized glucoamylase onto sodium alginate-cellulose nanoparticle	Graduated (2018)
6.	Shazreen Joseph Chan	Microbubble separation technology for residual palm oil from discharge sludge water	Graduated (2017)
7.	Nurul Azira Zahari	Immobilization of pectinase onto nata de coco for guava juice clarification	Graduated (2017)
8.	Muhammad Izwan Norman	Baseline study of phospholipids in palm oil biomass	Graduated (2016)
9.	Syahmi Adli Ismail	Process recovery of vitamin E from palm oil biomass	Graduated (2016)
10.	Tan Qee Chow	Study on the effects of temperature and water content on crude palm oil (CPO) quality	Graduated (2015)
11.	Ruben a/ Thiruchelvam	Immobilization of phospholipase A1 enzyme for the degumming of crude palm oil	Graduated (2015)
12.	Wan Nurhakimah Wan Abd. Hamed	Study on the effect of water ratio and soaking time for crude palm oil recovery from residual oil in empty fruit bunch	Graduated (2015)
13.	Hazierah Mohd Helmey	Immobilization of cyclodextrin glucanotransferase on microfiber from oil palm empty fruit bunch spikelet	Graduated (2014)
14.	Muhammad Naim Muhammad Khatib	Immobilization of cyclodextrin glucanotransferase (CGTase) on magnetic chitosan microparticles support	Graduated (2014)
15.	Chu Chang Jie	Enzymatic treatment of bird nest	Graduated (2013)
16.	Ng Lin Cieh	CGTase immobilization on kenaf fibers and its application in starch modification	Graduated (2013)
17.	Lim Kok Wai	Biodiesel synthesis by enzymatic transesterification reaction of palm oil and ethanol using immobilized Burkholderia cenocepacia lipase on kenaf fiber	Graduated (2012)

Final year project for Bachelor (Main-Supervisor)

	Name	Title	Status
18.	Nurul Buhirah Abd Rahman	Dynamic mathematical modeling of acetone-butanol-ethanol (ABE) fermentation from mixed of carbon sources using Clostridium acetobutylicum ATCC 824	Graduated (2012)
19.	Tan Mei May	Dynamic mathematical modeling of reaction kinetic for poly(3-hydroxybutyrate) production from mixed sugars using Cupriavidus necator NCIMB11599	Graduated (2012)
20.	Awangku Fazrulji Mehdi	Co-composting of empty fruit bunch and palm oil mill effluent anaerobic sludge in 80 L vertical closed bioreactor	Graduated (2011)
21.	Chen Lai Feng	Theoretical study of aerobic composting with energy and mass transfers	Graduated (2011)
22.	Woo Joo Ann	Enzymatic production of cyclodextrins from local sago and tapioca starch using cyclodextrin glucanotransferase from Bacillus macerans	Graduated (2011)
23.	Chew Kui Ling	Dynamic mathematical modelling and simulation of poly(-hydroxybutyrate-co-3-hydroxyvalerate) production by fed-batch fermentation using VFAS from POME	Graduated (2010)
24.	Hamizah Hamdan	Study of dynamic mathematical modeling and simulation of composting process in a closed system	Graduated (2010)
25.	Nurul Haliza Hassan	Theoretical studies of cyclodextrin glucanotransferase production by batch and continuous cultivation	Graduated (2010)
26.	Tong Eng Peng	Study of the characteristic of koji and moromi fermentation	Graduated (2010)