

Dr. PRAKASH MURGEPPA BHUYAR, D. Pharm, MSc, MEng, PhD.
(Director/Assistant Dean/Lecturer)
World's Top 2% Scientists by Stanford University 2023

Contact information

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Academic Titles/ Tasks

Director, International Industry and Agriculture Innovation Research Center (IIAR), International College (MJU-IC), Maejo University, Chiang Mai, Thailand

Assistant Dean, International Affairs, International College (MJU-IC), Maejo University, Chiang Mai, Thailand

Lecturer, International College (MJU-IC), Maejo University, Chiang Mai, Thailand

Education Information

Doctorate, Doctor of Philosophy in Biotechnology (**Ph.D.**), Faculty of Industrial Sciences and Technology, University Malaysia Pahang, Malaysia (2017- 2020)

Postgraduate, Master of Renewable Energy Engineering (**MEng**), School of Renewable Energy, Maejo University, Thailand (2020- 2021)

Postgraduate, Master's in Biotechnology (**MSc**), Bangalore University, Bangalore, India (2014-2016)

Undergraduate, Bachelor's in Biotechnology (Entire) (**BSc**), Shivaji University, Kolhapur, India (2011-2014)

Diploma, Diploma in Pharmaceutical Sciences (**DPharm**), Maharashtra State Board Technical Education, India (2009- 2011)

Foreign languages

English, C2 Mastery

Hindi, C2 Mastery

Malay, A1, Beginner

Dissertations

Doctor of Philosophy, Phycodegradation of polyethylene by photosynthetic microalgae, Faculty of Industrial Sciences and Technology, University Malaysia Pahang, Malaysia 2021

Master of Engineering, Enhancement of bioethanol production yield of *Amorphophallus* spp. tubers by hydrolysis techniques, Faculty of Sciences, School of Renewable Energy, Maejo University, Thailand 2022

Master of Science, Enhancement of bioethanol production by immobilizing of hydrolytic enzymes from *Ammorphophalus commuataatus*, Bangalore University, Bangalore, India 2016

Bachelor of Science, Isolation, partial purification, and characterization of protease enzyme from proteolytic bacteria from dairy soil, Shivaji University, Kolhapur, India 2011

Research Areas

Algae-based Biofuel, Bioprocess Engineering, Agriculture Biotechnology, Food Microbiology, Environmental Engineering, Renewable Energy

Teaching experience

Lecturer, Program in Organic Agriculture Management, International College, Maejo University, Chiang Mai, Thailand, (Dec 2021 – Continues)

Administrative/Management experience

Director, International Industry and Agriculture Innovation Research Center (IIAR), International College (MJU-IC), Maejo University, Chiang Mai, Thailand, (Dec 2022 – Continues)

Assistant Dean, International Affairs, International College (MJU-IC), Maejo University, Chiang Mai, Thailand

Advising thesis

Current Students: Maejo University (Supervisor)

- I. Yan Hua Lee - China (Master)
- II. Cao Yun - China (Master)
- III. Shuang Guo - China (PhD)
- IV. Mongkon Duangkhiew - Laos (Master)
- V. Chawanangwa Mkandawire - Malawi (Master)
- VI. Jing Lee - China (Master)

Alumni Students: Maejo University (Supervisor)

- I. Navytchmathra Gammatantrawet, Thailand (PhD) - Defended
- II. Victoria Adeife - Nigeria (Master) - Defended
- III. Chuyên Thuận Nguyễn - Vietnam (Master) - Defended

Alumni Students: (Instructor)

- I. Kartik Murugan Palanisamy, UMP, Malaysia, 2020 (Master)
- II. Shreyashi Mitra, SRM University, India, 2019 (Master)
- III. Sushree Sangita Parhi, SRM University, India, 2019 (Master)

Bachelor Students: Universiti Malaysia Pahang (Instructor: Mentor)

- I. Naimatul Hidayati Binti Abdul Aziz, 2019
- II. Sazlina Binti Safri, 2019
- III. Yusazlin Binti A. Bakar, 2019
- IV. Mohamad Fakhrul Farez Bin Mohd Hishammuddin, 2020
- V. Ho Xuan Feng, Malaysia, 2020
- VI. Adlin Amalin Binti Ibrahim, 2020
- VII. Nurul Aqilah Binti Mohd Tamizi, 2020
- VIII. Nur Alissaar Binti Yusof, 2020
- IX. Muhd Syahmi Syafiq B. Shahidan, 2020
- X. Nur Hanani Binti Ibrahim, 2020

Internship Students: Maejo University (Supervisor)

- I. Ho Jai (Hong Kong) 2024
- II. Michael Gerolf (Germany) Erasmus Mundus 2024
- III. Janek Mayer (Germany) Erasmus Mundus 2022
- IV. Ema Kraft (Germany) 2023
- V. Kartik Murugan Palanisamy (Malaysia) 2022
- VI. Rohit Rathod (India) 2023
- VII. Piyush Kulkarni (India) 2023
- VIII. Mohini Kapre (India) 2023

Articles published in journals that entered sci, ssci, and ahci indexes

Year 2024

- I. **Advancement of lignin into bioactive compounds through selective organic synthesis methods.**
Jadhav, P., Bhuyar, P., Mison, I. I., Ab Rahim, M. H., & Roslan, R. 2024. International Journal of Biological Macromolecules, 134061.
- II. **Advancing thermoset polymer composites with nanoclay reinforcement: a comprehensive investigation within composite interfaces.**
Gillela, S., Yadav, S.M., Kelkar, B.U., Sihag, K., Dangtungee, R., Bhuyar, P., Lee, S.H., Fatriasari, W., Wibowo, E.S. and Sinha, A., 2024. Composite Interfaces, pp.1-43.
- III. **Drought-ready plant resilience: Harnessing nano-biotechnology techniques for swift screening and selection of organic crop varieties.**
Nguyễn, C.T., Gammatantrawet, N., Susawaengsup, C., Tandee, K., Ramli, A.N.M., Tongkoom, K., Chatsungnoen, T., Dangtungee, R. and Bhuyar, P., 2024. South African Journal of Botany, 169, pp.553-566.
- IV. **Unleashing growth potential: Harnessing the power of synbiotics to enhance Pleurotus cultivation.**

Patil R, Ramli A.N.M., Ang S.X., Ng, Z.X., Azelee N.I.W., Bhuyar P. 2024. Journal of Zhejiang University SCIENCE B , 25 (4), pp.293-306.

- V. **Phytochemistry of Medicinal Herbs Belongs to Asclepiadaceae Family for Therapeutic Applications: A Critical Review.**
Gammatantrawet, N., Nguyễn, C.T., Susawaengsup, C., Ramli, A.N.M., Tongkoom, K., Chatsungnoen, T., Dangtungee, R. and Bhuyar, P., 2024. Molecular Biotechnology, pp.1-25.
- VI. **Enhancement of solvent tolerance and economical bioethanol production by modulated sigma 54 expression of *Pseudomonas putida*.**
Su, C.Y., Kuo, H.H., Wang, J.H., Kao, W.Y., Bhuyar, P., Shen, M.Y., Wu, H.C. and Lee, K.T., (2024). Biomass Conversion and Biorefinery, pp.1-11.
- VII. **Modification of Phenol-formaldehyde resins with nanoclay and its application in *Lantana camara* composites.**
Gillela, S., Yadav, S.M., Sihag, K., Kelkar, B.U., Dangtungee, R., Bhuyar, P. (2024). Journal of Tropical Forest Science, 256453.
- VIII. **Characterisation of synthesised trimetallic nanoparticles and its influence on anaerobic digestion of palm oil mill effluent.**
Jadhav, P., Krishnan, S., Kamyab, H., bin Khalid, Z., Bhuyar, P., Zularism, A. W., & Nasrullah, M. (2024). Chemosphere, 346, 140512.

Year 2023

- IX. **Lipid Enhancement in Oleaginous *Nannochloropsis* sp. under Nitrate Limitation for Future Bioenergy Production.**
Palanisamy, K. M., Bhuyar, P., Rahim, M. A., Vadiveloo, A., Al-Dhabi, N. A., Govindan, N., & Maniam, G. (2023). International Journal of Energy Research
- X. **Surface Functionalization of Activated Carbon Cloth for Wastewater Perchlorate Adsorption-Integrated Molecular Modeling and Experimental Energy Analysis.**
Kuan, W. F., Ahmad, M. S., Hsieh, C. H., Bhuyar, P., Wang, T. H., Ou, S. C., & Chen, C. L. (2023). International Journal of Energy Research.
- XI. **Organic farming management: A approach towards sustainable agriculture development towards green environment.**
Gammatantrawet, N., Susawaengsup, C., Tongkoom, K., Chatsungnoen, T., Leelapattana, W., Sitthikun, S., Dangtungee, R. and Bhuyar, P. (2023). Maejo International Journal of Energy and Environmental Communication, 5 (3), 6-15.
- XII. **Unlocking the growth potential: Harnessing the power of synbiotics to enhance cultivation of *Pleurotus* spp.**
Patil, R., Ramli, A. N. M., Xuan, A. S., Xin, N. Z., Azelee, N. I. W. & Bhuyar, P. (2023). Journal of Zhejiang University-SCIENCE B, 1-13.
- XIII. **Phytochemical and Pharmacological Properties of a Traditional Herb, *Strobilanthes Cusia* (Nees) Kuntze**
Susawaengsup, C., Choengpanya, K., Sornsakdanuphap, J., Tabtimmai, L., Chaiharn, M., & Bhuyar, P. (2023). Molecular Biotechnology, 1-12.
- XIV. **Climate change: Consequences for neglecting the early warnings a brief testimony**
Thivagaran, R., Bakar, N. H. A., Palanisamy, K. M., Bhuyar, P., Govindan, N., Rahim, M. H. A., & Maniam, G. P. (2023). Maejo International Journal of Energy and Environmental Communication, 5 (2), 55-63.

- XV. **Autotrophic production of bio-functional proteins from freshwater microalgae using natural water medium for an economical and ecofriendly approach**
Tsai, D. D.W., Ramaraj, R., Unpaprom, U., Bhuyar, P., Ramaraj, R., Chen, P. H. (2023). Maejo International Journal of Energy and Environmental Communication, 5 (2), 29-34.
- XVI. **An overview of the cultivation and commercialization of the caterpillar fungus, *Ophiocordyceps sinensis* sited in the Tibetan Plateau and the Himalayan forests of Bhutan and Nepal**
Munir, N., Ramli, A. N. M., Bhuyar, P. and Azelee, N. I. W. (2023). Sustainability and Biodiversity Conservation, 2-1.
- XVII. **Valorization of agro-industrial waste for the advancement of mushrooms and their production yield.**
Munir, N., Ramli, A. N. M., Norsazali, N. F. S., & Bhuyar, P. (2023). Biomass Conversion and Biorefinery, 1-12.
- XVIII. **Assessment of phenolic profile, allicin content, and inhibitory potential against α -amylase and α -glucosidase on conventional and organic garlic (*Allium sativum* L.).**
Wongsa, P., Bhuyar, P., & Müller, J. (2023). European Food Research and Technology, 1-13.
- XIX. **Optimization of rubber seed oil extraction: Adaptive Neuro-Fuzzy Inference-Based Yield Prediction Model by Studying Polarity and Moisture Content.**
Khazaai, S. N. M., Bhuyar, P., Strezov, V., Govindan, N., Rahim, M. H. A., & Maniam, G. P. (2023). BioEnergy Research, 1-11.
- XX. **Cultivation of Microalgae *Spirulina platensis* Biomass Using Palm Oil Mill Effluent for Phycocyanin Productivity and Future Biomass Refinery Attributes.**
Palanisamy, K. M., Bhuyar, P., Ab Rahim, M. H., Govindan, N., & Maniam, G. P. (2023). International Journal of Energy Research, 2023.
- XXI. **Silver Nano Chito Oligomer Hybrid Solution for the Treatment of Citrus Greening Disease (CGD) and Biostimulants in Citrus Horticulture.**
Vatcharakajon, P., Sornsaket, A., Choengpanya, K., Susawaengsup, C., Sornsakdanuphap, J., Boonplod, N., Bhuyar, P. and Dangtungee, R. (2023). Horticulturae, 9(6), p.725.
- XXII. **An ITS gene-mediated molecular detection of fungi associated with natural and artificial agarwood from *Aquilaria malaccensis*.**
Ramli, A. N. M., Yusof, S., Bhuyar, P., Aminan, A. W., & Tajuddin, S. N. (2023). Journal of microbiology, biotechnology and food sciences, e9465-e9465.
- XXIII. **An Overview of Molecular Basis and Genetic Modification of Floral Organs Genes: Impact of Next-Generation Sequencing.**
Patil, R. V., Hadawale, K. N., Ramli, A. N. M., Wadkar, S. S., & Bhuyar, P. (2023). Molecular Biotechnology, 1-16.
- XXIV. **Environment friendly approach for plant mediated green biosynthesis of gold nanoparticles and their modern applications in biomedical aspects - An updated report.**
Nithin, B.R., Bhuyar, P., Maniam, G. P., Rahim, M. H. A., Govindan, N. (2023). Bionanosience, 1-24.
- XXV. **Influence of food-packaging materials and shelf-life conditions on dried garlic (*Allium sativum* L.) concerning quality and stability of allicin/phenolic content**
Wongsa, P., Bhuyar, P., Sarsud, V., Müller, J. (2023). Food and Bioprocess Technology.
- XXVI. **Enhancement of fermentable sugars from fresh elephant ear plant for bioethanol production using ash as a source of CaO.**

Trejo, M., Bhuyar, P., Unpaprom, Y., Valadez, F. J. R., & Ramaraj, R. (2023). In AIP Conference Proceedings (Vol. 2682, No. 1, p. 050017). AIP Publishing LLC.

- XXVII. **Chicken Feather Waste Hydrolysate as a Potential Biofertilizer for Environmental Sustainability in Organic Agriculture Management.**
Gupta, S., Sharma, S., Aich, A., Verma, A.K., Bhuyar, P., Nadda, A.K., Mulla, S.I. and Kalia, S. (2023). Waste and Biomass Valorization, pp.1-17.
- XXVIII. **Influence of hot-air drying methods on the phenolic compounds/allicin content, antioxidant activity and α -amylase/ α -glucosidase inhibition of garlic (*Allium sativum* L.)**
Wongsa, P., Bhuyar, P., Tongkoom, K., Spreer, W., Müller, J. (2023). European Food Research and Technology. 1-13.
- XXIX. **Agriculture of microalgae *Chlorella vulgaris* for polyunsaturated fatty acids (PUFAs) production employing palm oil mill effluents (POME) for future food, wastewater, and energy nexus.**
Kumaran, M., Palanisamy, K. M., Bhuyar, P., Maniam, G. P., Rahim, M. H. A. , Govindan, N. (2023). Energy Nexus, 100169

Year 2022

- XXX. **A comprehensive review of the synthesis strategies, properties, and applications of transparent wood as a renewable and sustainable resource.**
Chuttur, M., Gillela, S., Yadav, S. M., Wibowo, E. S., Sihag, K., Rangppa, S. M., Bhuyar, P., Siengchin, S., Antov, P., Kristak, L., Sinha, A. (2022). Science of The Total Environment, 161067.
- XXXI. **Green Biosynthesis of Silver Nanoparticles (AgNPs) from *Vitex negundo* Plant Extract and its Phytochemical Screening and Antimicrobial Assessment next to Pathogenic Microbes**
Dogra, S., Sharma, M. D., Tabassum, S., Mishra, P., Bhatt, A. K., Bhuyar, P. (2022). Journal of Microbiology, Biotechnology and Food Sciences, e5993.
- XXXII. **Effect of Fertilization Combined with Shading on Growth and Aromatic Constituents of Niamhom (*Strobilanthes nivea* Craib) Using an Internet of Things (IoT) Controlled Irrigation System.**
Susawaengsup, C.; Jaradrattanapaiboon, A.; Sornsakdanuphap, J.; Choengpanya, K.; Jaradrattanapaiboon, Y.; Tongkoom, K.; Bhuyar, P. Horticulturae 2022, 8, 1130.
- XXXIII. **A Two-stage Strategy for Polyhydroxybutyrate (PHB) Production *Allium sativum* by Continuous Biohydrogen Fermenter and Sequencing Batch Reactor from Food Industry Wastewater.**
Chia-Wei Lai, C. W., Bhuyar, P., Shen, M. Y., Chu, C. Y., (2022). Sustainable Energy Technologies and Assessments, 53, 102445.
- XXXIV. **Production, downstream processing, and characterization of polyhydroxyalkanoates (PHAs) boosted by pyruvate supplement using mixed microbial culture (MMC) and organic wastewater.**
Shen, M. Y., Chu, C. Y., Sawatdeenarunat, C., & Bhuyar, P. (2022). Biomass Conversion and Biorefinery, 1-9.
- XXXV. **Production of Volatile compounds by a variety of fungi in artificially inoculated and naturally infected *Aquilaria malaccensis*.**
Ramli, A. N. M., Yusof, S., Bhuyar, P., Aminan, A. W., Tajuddin, S. N., & Hamid, H. A. (2022). Current Microbiology, 79(5), 1-14.

- XXXVI. **Enhancement of fermentable sugars obtained from *Amorphophallus* Spp. tuber for bioethanol production by optimizing temperature and pretreatment concentration.**
Bhuyar, P., Trejo, M., Ramli, A. N. M., Govindan, N., Unpaprom, Y., & Ramaraj, R. (2022). *Materials Science Forum* (Vol. 1056, pp. 185-190).
- XXXVII. **Enhancement of biohydrogen production by employing a packed-filter bioreactor (PFBR) utilizing sulfite-rich organic effluent obtained from a washing process of beverage manufactures.**
Chu, C.Y, Zheng, J. L, Bhuyar P. (2022). *Biomass and Bioenergy*. 161, 106451.
- XXXVIII. **Advancements of fermentable sugar yield by pretreatment and steam explosion during enzymatic saccharification of *Amorphophallus* sp. starchy tuber for bioethanol production.**
Bhuyar, P, Trejo, M, Mishra, P., Unpaprom, Y., Ramaraj, R. (2022). *Fuel*. 323, 124406
- XXXIX. **Application of iron-cobalt-copper (Fe-Co-Cu) trimetallic nanoparticles on anaerobic digestion (AD) for biogas production.**
Jadhav, P., Khalid, Z. B., Krishnan, S., Bhuyar, P., Zularisam, A. W., Razak, A. S. A., & Nasrullah, M. (2022). *Biomass Conversion and Biorefinery*, 1-11.
- XL. **The effect of various pretreatments conditions on the distribution of fermentable sugar from dried elephant ear plant.**
Trejo, M., Bhuyar, P., Velu, G., Pérez, E. Z., Unpaprom, Y., Trail, A., & Ramaraj, R. (2022). *Fuel*, 324, 124624.
- XLI. **Coolant Volume Prediction for Spindle Cooler with Adaptive Neuro-fuzzy Inference System Control Method.**
Hsieh, M. C., Maurya, S. N., Luo, W. J., Li, K. Y., Hao, L., & Bhuyar, P. (2022). *Sensors and Materials*, 34(6), 2447-2466.
- XLII. **Fungi mediated agarwood (*A. malaccensis*) production and their pharmaceutical applications: A systematic review.**
Ramli, A. N. M., Yusof, S., Bhuyar, P., Aminan, A. W., & Tajuddin, S. N. (2022). *International Journal of Plant Based Pharmaceuticals*, 2(2), 261-270.

Year 2021

- XLIII. **Effective microbes (EM) and their potential on mushroom commercialization in Malaysia.**
Munir, N., Xiang, T. C., Bhuyar, P., & Ramli, A. N. M. (2021). *Maejo International Journal of Energy and Environmental Communication*, 3(3), 45-55.
- XLIV. **Effect of reaction conditions on the lifetime of SAPO-34 catalysts in methanol to olefins process-A review.**
Ahmad, M.S., Cheng, C.K., Bhuyar, P., Atabani, A.E., Pugazhendhi, A., Chi, N.T.L., Witoon, T., Lim, J.W., Juan, J.C. (2021). *Fuel*, 283, p.118851.
- XLV. **Removal of nitrogen and phosphorus from agro-industrial wastewater by using microalgae collected from coastal region of peninsular Malaysia.**
Bhuyar, P., Farez, F., Rahim, M. H. A., Maniam, G. P., Govindan, N. (2021). *African Journal of Biological Sciences*. 3(1), 58-66.
- XLVI. **Isolation and characterization of bioactive compounds in medicinal plant *Centella asiatica* and study the effects on fungal activities.**
Bhuyar, P., Rahim, M. H. A., Maniam, G. P., & Govindan, N. (2021). *Journal of Microbiology, Biotechnology and Food Sciences*, 10(4), 631-635.

- XLVII. **Improvement of fermentable sugar for enhanced bioethanol production from *Amorphophallus* spp. tuber obtained from northern Thailand.**
Bhuyar, P., Shen, M. Y., Trejo, M., Unpaprom, Y., & Ramaraj, R. (2021). *Environment, Development and Sustainability*, 1-12.
- XLVIII. **Antioxidative study of polysaccharides extracted from red (*Kappaphycus alvarezii*), green (*Kappaphycus striatus*) and brown (*Padina gymnospora*) marine macroalgae/seaweed.**
Bhuyar, P., Sundararaju, S., Rahim, M.H.A., Unpaprom, Y., Maniam, G.P. and Govindan, N. (2021). *SN Applied Sciences*, 3(4), pp.1-9.
- XLIX. **Evaluation of Microalgae's Plastic Biodeterioration Property by a Consortium of *Chlorella* sp. and *Cyanobacteria* sp.**
Bhuyar, P., Sundararaju, S., Feng, H. X., Rahim, M. H. A., Muniyasamy, S., Maniam, G. P., & Govindan, N. (2021). *Environmental Research, Engineering and Management*, 77(3), 86-98.
- L. **Enhanced productivity of lipid extraction by urea stress conditions on marine microalgae *Coelastrum* sp. for improved biodiesel production.**
Bhuyar, P., Sundararaju, S., Rahim, M. H. A., Maniam, G. P., Govindan, N. (2021). *Bioresource Technology Reports*, 100696.
- LI. **Microalgae cultivation in wastewater effluent from tilapia culture pond for enhanced bioethanol production.**
Bhuyar, P., Trejo, M., Dussadee, N., Unpaprom, Y., Ramaraj, R., & Whangchai, K. (2021). *Water Science and Technology*. 2021194.
- LII. **A review on the impact of conductive nanoparticles (CNPs) in anaerobic digestion: Applications and limitations.**
Chandrakant, J.P., Muhammad, N., Bhuyar, P., Krishnan, S., Abd Razak, A.S., Zularisam, A.W., Nasrullah, M. (2021). *Environmental Technology & Innovation*, p.101526.
- LIII. **Enhanced biodiesel production via esterification of palm fatty acid distillate (PFAD) by using rice husk ash (NiSO₄)/SiO₂ catalyst.**
Embong, N. H., Hindryawati, N., Bhuyar, P., Govindan, N., Rahim, M. H. A, Maniam, G. P. (2021). *Applied Nanoscience*.
- LIV. **High Performance of Biohydrogen Production in Packed-Filter Bioreactor via Optimizing Packed-Filter Position.**
Chu, C. Y., Zheng, J. L., Chen, T. H., & Bhuyar, P. (2021). *International Journal of Environmental Research and Public Health*, 18(14), 7462.
- LV. **Direct interspecies electron transfer performance through nanoparticles (NPs) for biogas production in the anaerobic digestion process.**
Jadhav, P., Nasrullah, M., Zularisam, A. W., Bhuyar, P., Krishnan, S., & Mishra, P. (2021). *International Journal of Environmental Science and Technology*, 1-13.
- LVI. **Effects of light intensity and nutrients on the lipid content of marine microalga (diatom) *Amphiprora* sp. for promising biodiesel production.**
Jayakumar, S., Bhuyar, P., Pugazhendhi, A., Rahim, M.H.A., Maniam, G.P. and Govindan, N. (2021). *Science of The Total Environment*, 768, p.145471.
- LVII. **Rapid determination of diesel/biodiesel blend ratio using refractive index, density, and kinematic viscosity measurements.**
Khazaai, S. N. M., Bhuyar, P., Rahim, M. H. A., Alwi, M. H. F. M., Yiting, S., & Maniam, G. P. (2021). *Biomass Conversion and Biorefinery*, 1-7.
- LVIII. **Biodiesel (Methyl Esters).**

Ma'arof, N. A. N. B., Hindryawati, N., Khazaai, S. N. M., Bhuyar, P., Rahim, M. H. A., & Maniam, G. P. (2021). Maejo International Journal of Energy and Environmental Communication, 3(1), 30-43.

- LIX. **Exploitation of cost-effective renewable heterogeneous base catalyst from banana (*Musa paradisiaca*) peel for effective methyl ester production from soybean oil.**
Ma'arofa, N. A. N. B., Hindryawati, N., Khazaai, S. N. M., Bhuyar, P., Rahim, M. H. A., Maniam, G. P. (2021). Applied Nanoscience
- LX. **Exploration of efficiency of nano calcium oxide (CaO) as catalyst for enhancement of biodiesel production.**
Malek, M.N.F.A., Pushparaja, L., Hussin, N.M., Embong, N.H., Bhuyar, P., Rahim, M. H. A., Maniam, G. P. (2021). The J. of Micro. Biotech. & Food Sci.
- LXI. **Physicochemical properties and tenderness analysis of bovine meat using proteolytic enzymes extracted from pineapple (*Ananas comosus*) and jackfruit (*Artocarpus heterophyllus*) by-products.**
Mazila Ramli, A. N., Abd Hamid, H., Hanani Zulkifli, F., Zamri, N., Bhuyar, P., & Manas, N. H. A. (2021). Journal of Food Processing and Preservation, e15939.
- LXII. **Exploration of Antibacterial and Antioxidative activity of seed/peel extracts of south-east Asian fruit Durian (*Durio zibethinus*) for effective shelf-life enhancement of preserved Meat.**
Mazila Ramli, A. N., Binti Muhammad Sukri, N. A., Wan Azelee, N. I., & Bhuyar, P. (2021). Journal of Food Processing and Preservation, e15662.
- LXIII. **Genetic diversity evaluation in wild *Muntingia calabura* L. based on Random Amplified Polymorphic DNA (RAPD) markers.**
Nasution, F., Theanhom, A. A., Bhuyar, P., & Chumpookam, J. (2021). Gene Reports, 101335.
- LXIV. **Stimulation of natural enzymes for germination of mimosa weeds seeds to productive bioethanol production.**
Ramaraj, R., Bhuyar, P., Intarod, K., Sameechaem, N., Unpaprom, Y. (2021). 3 Biotech 11, 307 (2021).
- LXV. **Valorization of keratin waste biomass and its potential applications.**
Reddy, C. C., Khilji, I. A., Gupta, A., Bhuyar, P., Mahmood, S., AL-Japairai, K. A. S., & Chua, G. K. (2021). Journal of Water Process Engineering, 40, 101707.
- LXVI. **Comparative analysis of fresh and dry free-floating aquatic plant *Pistia stratiotes* via chemical pretreatment for second-generation (2G) bioethanol production.**
Whangchai, K., Inta, W., Unpaprom, Y., Bhuyar, P., Adoonsook, D. and Ramaraj, R. (2021). Bioresource Technology Reports, 14, p.100651.
- LXVII. **Biomass generation and biodiesel production from macroalgae grown in the irrigation canal wastewater.**
Whangchai, K., Souvannasouk, V., Bhuyar, P., Ramaraj, R., & Unpaprom, Y. (2021). Water Science and Technology. 2021195.
- LXVIII. **Biomass and lipid production from indigenous *Nannochloropsis* sp. by employing stress factors for improved biodiesel production.**
Paramasivam, P., Kanagesan, K., Bhuyar, P., Govindan, N., Ab. Rahim, M. H., & Maniam, G. P. (2021). Environment, Development and Sustainability, 1-15.

- LXIX. **Biogas production from Napier grass and cattle slurry using a green energy technology.**
Souvannasouk, V., Shen, M., Trejo, M., Bhuyar, P. (2021). International Journal of Innovative Research and Scientific Studies, 4 (3) 2021, pages: 228-237
- LXX. **Advancement of fermentable sugars from fresh elephant ear plant weed for efficient bioethanol production.**
Trejo, M., Bhuyar, P., Unpaprom, Y., Dussadee, N., & Ramaraj, R. (2021). Environment, Development and Sustainability, 1-11.

Year 2020

- LXXI. **Salinity reduction from poly-chem-industrial wastewater by using microalgae (*Chlorella* sp.) collected from coastal region of peninsular Malaysia.**
Bhuyar, P., Hong, D. D., Mandia, E., Rahim, M. H. A., Maniam, G. P., Govindan, N. (2020). J Bio Med Open Access.1(1):105.
- LXXII. **Exploration of bioactive compounds and antibacterial activity of marine blue-green microalgae (*Oscillatoria* sp.) isolated from coastal region of west Malaysia.**
Bhuyar, P., Rahim, M. H. A., Maniam, G. P., Ramraj, R., Govindan, N. (2020). SN Appl. Sci.
- LXXIII. **Synthesis of silver nanoparticles using marine macroalgae *Padina* sp. and its antibacterial activity towards pathogenic bacteria.**
Bhuyar, P., Rahim, M. H. A., Sundararaju, S., Ramaraj, R., Maniam, G. P., & Govindan, N. (2020). Beni-Suef Univ J Basic Appl Sci, 9(1), 1-15. Y
- LXXIV. **Antioxidant and antibacterial activity of red seaweed *Kappaphycus alvarezii* against pathogenic bacteria.**
Bhuyar, P., Rahim, M. H., Sundararaju, S., Maniam, G. P., Govindan, N. (2020). Global Journal of Environmental Science and Management, 6(1), 47-58.
- LXXV. **Effect of plant hormones on the production of biomass and lipid extraction for biodiesel production from microalgae *Chlorella* sp."**
Bhuyar, P., Yusoff, M. M., Rahim, M. H. A., Sundararaju, S., Maniam, G. P., Govindan, N. (2020). The J. of Micro. Biotech. and Food Sci. 9, no. 4 (2020): 671.
- LXXVI. **Production of bioethanol from starchy tuber (*Amorphophallus commutatus*) and antimicrobial activity study of its extracts.**
Bhuyar, P., Sundararaju, S., Math, K. R., Maniam, G. P., Govindan, N. (2020). Afr. J. of Bio. Sci., 2(2), 70-76.
- LXXVII. **The immobilization of yeast for fermentation of macroalgae *Rhizoclonium* sp. for efficient conversion into bioethanol.**
Khammee, P., Ramaraj, R., Whangchai, N., Bhuyar, P., Unpaprom, Y. (2020). Biomass Conv. Bioref.53:2.
- LXXVIII. **Ultrasonication: a process intensification tool for methyl ester synthesis: a mini review.**
Malek, M.N.F.A., Hussin, N.M., Embong, N.H., Bhuyar, P., Rahim, M. H. A., Govindan, N., Maniam, G. P. (2020). Biomass Conversion and Biorefinery, 1-11.
- LXXIX. **Culturing of green photosynthetic microalgae (*Chlorella* sp.) using palm oil mill effluent (POME) for future biodiesel production.**
Nithin, B. R., Bhuyar, P., Trejo, M., Rahim, M. H. A., Maniam, G. P., Govindan, N. (2020). Maejo Int J Energy Environ Commun, 2(1); 1-8.
- LXXX. **Antibacterial and Antioxidative activity of the essential oil and seed extracts of *Artocarpus heterophyllus* for effective shelf-life enhancement of stored Meat.**

Ramli, A. N. M., Badruzaman, S. Z. S., Hamid, H. A., Bhuyar, P. (2020). J. of Food Process. & Preser. 22

LXXXI. **Passion fruit (*Passiflora edulis*) peel powder extract and its application towards antibacterial and antioxidant activity on the preserved meat products.**

Ramli, A.N.M., Manap, N.W.A., Bhuyar, P., Azelee, N. I. W. (2020). SN Appl. Sci. 2, 1748.

LXXXII. **The optimization of oil extraction from macroalgae, *Rhizoclonium* sp. by chemical methods for efficient conversion into biodiesel.**

Saengsawang, B., Bhuyar, P., Manmai, N., Ponnusamy, V. K., Ramaraj, R., Unpaprom, Y. (2020). Fuel, 274, 117841.

LXXXIII. ***Microbacterium* sp. MRS-1, a potential bacterium for cobalt reduction and synthesis of less/non-toxic cobalt oxide nanoparticles (Co₃O₄).**

Sundararaju, S., Arumugam, M., Bhuyar, P.(2020). Beni-Suef Univ J Basic Appl Sci 9, 44.

Year 2019

LXXXIV. **Desalination of Polymer and Chemical industrial wastewater by using green photosynthetic microalgae, *Chlorella* sp.**

Bhuyar, P., Hong, D. D., Mandia, E., Rahim, M. H. A., Maniam, G. P., Govindan, N. (2019). Maejo Int J Energy Environ Commun, 1(3), 9-19.

LXXXV. **A selective microalgae strain for biodiesel production in relation to higher lipid profile.**

Bhuyar, P., Rahim, M. H. A., Yusoff, M. M., Maniam, G. P., Govindan, N. (2019). Maejo Int J Energy Environ Commun, 1(1), 8-14.

LXXXVI. **Microalgae cultivation using palm oil mill effluent as growth medium for lipid production with the effect of CO₂ supply and light intensity.**

Bhuyar, P., Sundararaju, S., Rahim, M. H. A., Ramaraj, R., Maniam, G. P., & Govindan, N. (2019). Biomass Conv. Bioref.1-9.

LXXXVII. **Effect of ultraviolet light on the degradation of Low-Density and High- Density Polyethylene characterized by the weight loss and FTIR.**

Bhuyar, P., Tamizi, N. A. B. M., Rahim, M. H. A., Maniam, G. P., Govindan, N. (2019). Maejo Int J Energy Environ Commun, 1(2), 26-31.

LXXXVIII. **Antimicrobial Study of Algal Enzymes Extracted from Microalgae by Ultrasonication.**

Bhuyar, P., Yusoff, M. M., Rahim M. H. A., Maniam, G. P., Ramaraj, R., Govindan, N. (2019) SSRN Online library.

LXXXIX. **Production of Bioethanol from *Ammorphophallus Commutatus* and Antimicrobial Activity.**

Math, R., Bhuyar, P., & Dake, A. (2019). In SSRN Electronic Journal (Vol. 100, pp. 4-6).

Year 2017-18

XC. **Green revolution to protect environment – An identification of potential microalgae for the biodegradation of plastic waste in Malaysia.**

Bhuyar, P., Muniyasamy, S., Govindan, N. (2018). In Expert Opinion on Environmental Biology (Vol. 07, p. 87).

XCI. **Biodegradation of plastic waste by using microalgae and their toxins.**

Bhuyar, P., Muniyasamy, S., & Govindan, N. (2019). Biodegradation of plastic waste by using microalgae and their toxins. J. Biotechnol. Biomater, 8, 55.

- XCII. **Isolation, Characterization and Partial Purification of Keratinase from Keratinolytic Bacteria.**
Bhuyar, P., Zagade, S., Revankar, R., Yusoff, M. M., Rahim, M. H. A., Govindan, N. (2018).
Scholar Journal of Applied Sciences and Research, 1(6), 40-45.
- XCIII. **Isolation, Partial Purification and Characterization of Protease Enzyme from Proteolytic Bacteria from Dairy Soil.**
Bhuyar, P. (2017). Int. J. for Res. in App. Sci. & Eng. Tech. (IJRASET), 5(Xi), 4083-4095.

Keynote/ Invited Speaker/ Guest Lecture

Keynote Speaker: The 4th International Conference on Environmental, Agricultural, Chemical and Biological Sciences, Tamilnadu, **India**

Keynote Speaker: Global Universities Partnership on SDGs and Industrial Academic Workshop, National Chin Yi University of Technology, **Taiwan**

Guest Speaker: International Symposium on Technology in Healthcare; Medical Equipment Technology, 4th August 2021, SAGE University, **India**

Guest Speaker: The 1st International Workshop on Agro-Ecology and Service Innovation, July 29th, 2021, Maejo University, **Thailand**

Guest Speaker: An Opportunities to Study Abroad, KWC, Sangli, **India**

Guest Lecturer: The 3rd University Network for Tropical Agriculture (UNTA) Online Lecture Series on “Pressing Environmental Issues” organized by National Pingtung University of Science and Technology, March 23rd to May 25th, 2022, **Taiwan**.

Guest Lecturer: The Online Training Program, “Sufficiency Economy Philosophy: Tools and Applications for Sustainable Community Development,” organized by Thailand International Cooperation Agency (TICA) on 7th - 26th February 2022, **Thailand**

National and International Symposiums and workshops

Module Development Workshop for PMC FSCC at Kasetsart University. April 22-26, 2024, **Thailand**

International Training Workshop on Advanced Talenta for Modern Agriculture Industry Development in Southeast Asia Yunnan Agricultural University, Kunming, China. March 8 -21, 2024, **China**

The 29th Tri-U International Joint Seminar & Symposium, “The Future of Environmental Sustainability and Innovation in Agriculture,” will be held from 21st to 24th December 2023 at Meajo University, Chiang Mai, **Thailand**.

The 4th University Consortium (UC) Faculty Forum, with the theme Future-Proofing Agriculture, was held on 5-6 December 2022 at the Science City of Muñoz, Nueva Ecija, **Philippines**.

The 3rd UC Faculty Forum was hosted by the Tokyo University of Agriculture on January 19-20, 2022, with the theme “Agricultural Science for a Better World”. January 20, 2022, **Japan**.

Azure Biosystems, University Malaya, organized the workshop on Real-Time PCR (qPCR) Technology: Multiplexing, uniform signal detection, and single-copy amplicon detection on 10/1/2022, January 10, 2022, in **Malaysia**.

The Joint Programming Platform Smart Energy Systems (JPP SES) Conference is the third time SET-Plan initiatives and funding networks in energy systems and system integration organized by JPP ERA-Net SES, Smart Energy Systems ERA-Net, 2021, **Europe**.

The workshop on Modeling Management of Climatic Stress in Rice-based Cropping Systems: The Application of the Agri-Practices & Domains Platform was conducted from 7-8 October 2021 via the SEARCA SOLVE Platform, October 2021, **Philippines**.

An Online Webinar on “Compressed Bio-Methane Gas from Pig Farms and Elephant Grass for Transportation’ was organized by the Research Department of Zoology, Vivekananda College, on 12th, Madurai, August 2021, **India**.

The X-ray photoelectron Spectroscopy (XPS) workshop was organized with CARIFF, Universiti Malaysia Pahang, in November 2019, **Malaysia**.

Refereed congress/conference publications in proceedings

The 3rd International Conference on Renewable Energy, Sustainable Environmental and Agricultural Technologies, Chiang Mai, **Thailand**. 2021

The 3rd Symposium on Industrial Science and Technology (SISTEC 2021) organized by the faculty of Industrial Sciences and Technology, Universiti Malaysia Pahang, **Malaysia**, 2021

The International Conference on Energy and Environment (ICEE 2021) organized by Jyothi Engineering College, Thrissur, **India**, 2021

The International Young Scholars Workshop held on June3-5 2020 at Suleyman Demirel University, **Kazakhstan**, 2020

The 1st International Conference on Environmental Science and Development (ICESD), Manila, **Philippines**, 2019

The 2nd International Conference of Applied Biology, Chemistry & Science (ICABCS 2019), **Indonesia**, 2019

The 2nd Maejo-Engineo International Conference on Renewable Energy, Maejo University Chiang **Thailand**. 2018

Supported projects

- I. **Karnataka State Council of Science & Technology, Government of Karnataka, Biofuel Board (KSCST: IISE)**
 - The enhancement of bioethanol production by immobilizing hydrolytic enzymes and markers assisted analysis by RAPD method of *Ammorphophallus* sp.” (Jan 2016-Aug 2016): Principal Investigator

- To study the production of Bioethanol from *Ammorphophalus commuatus* and antimicrobial activities” (Jan 2015-Aug 2015): Principal Investigator
- II. **National Research Center on Meat (NRCM) Indian Council of Agricultural Research, Hyderabad, India (Oct 2016- Oct 2017)**
- Detection and Quantification of Animal Body Fat (Tallow)/ Vegetable fat in Milk Fat/Ghee. MOFPI: Co-Investigator
 - Species and Sex identification of meat. (Forensic Samples) MOFPI: Co-Investigator
 - Species identification is needed to check the adulteration of cheaper quality meat in meat. FSSA: Co-Investigator I
- III. **Faculty of Industrial Sciences and Technology, University Malaysia Pahang, Malaysia (Nov 2017- Jan 2021)**
- Phyco-degradation of Low-Density and High-Density Polyethylene by a consortium of *Chlorella* sp. and *Cyanobacteria* sp. blue-green Photosynthetic Microalgae: Principal Investigator
 - Salinity reduction of agroindustry wastewater by using microalgae aspects. (LYNAS funded Project): Principal Investigator
- IV. **International College (MJU-IC), Maejo University, Chiang Mai, Thailand (Jan 2022- Current date)**
- Comparative assessment of various organic feedstocks, including animal manure, municipal rubbish/ waste, plant material, food waste, or sewage for biogas production: Principal Investigator
 - Evaluation of various methods to produce efficient biochar from bamboo trees obtained from the mountainous regions in northern Thailand: Principal Investigator
 - The influence of organic and chemical fertilization on growth and phytochemical components of *Atherolepis pierrei* Costantin and *Zygotelma benthami* Baill for pharmaceutical applications: Principal Investigator
 - Physio-biochemical and molecular mechanism of exogenous 2,4-brassinosteroids (2,4-BRs) in regulating the growth of maize (*Zea may* L.) under vanadium stress: Principal Investigator

National/ International Funding

Role/ PI/ Co-PI	Research Topics/Academic Services	Level	Sources of Budget
Principal Investigator	University Consortium Travel Grant Award	International	2000 USD (UC-SEARCA)
Co-Principal Investigator	International Medicinal Plants in Thailand	National	200,000 BAHT (MJU-IC) Budget
Principal Investigator	Micro Credentials for Food Security and Climate Change from ERASMUS +	International	7600 EURO (EU, Erasmus Plus)
Principal Investigator	Evaluating methods to produce efficient biochar from tones of bamboo harvested from	National	30,000 BAHT (Maejo University)

	mountainous regions in the north of the country.		
Principal Investigator	Evaluating Comparative assessment of various organic feedstocks, including animal manure, municipal rubbish/waste, plant material, food waste, or sewage for biogas production.	National	40,000 BAHT (MJU-IC) Budget
Principal Investigator	The enhancement of bioethanol production by immobilizing hydrolytic enzymes and markers assisted analysis by RAPD method of <i>Ammorphophallus</i> sp.”	International	21000 INR (KSCST, India)
Principal Investigator	To study the production of Bioethanol from <i>Ammorphophalus commuatus</i> and antimicrobial activities.	International	15000 INR (KSCST, India)

Research experience

Visiting Research Scientist, Department of Biochemical Science and Technology, National Taiwan University, Taiwan, 2024

Post-Doctoral Research Associate, School of Renewable Energy, Maejo University, Chiang Mai, Thailand, 2020-21

Research Associate, Faculty of Industrial Sciences and Technology, University Malaysia Pahang, Malaysia, 2017 - 2021

Research Intern, De La Salle University, Manila, Philippines, 2019

Research Intern, Vietnam Academy of Science and Technology, Hanoi, Vietnam, 2018

Research Fellow, ICAR-National Research Centre on Meat, Hyderabad, India, 2016-17

Activities in scientific journals

Editorial Manager

Maejo International Journal of Energy and Environmental Communication, Thailand

Associate Editor

BMC Research Notes, Springer Nature, UK

Journal of Food Processing and Preservation, Hindawi, UK (Impact Factor: 2.5)

Journal of Lipids, Hindawi, UK

Journal of Renewable Energy, Hindawi, UK

International Journal of Energy Research, Hindawi, UK (Impact Factor: 4.6)

Editorial Board Member

International Journal of Innovative Research and Scientific Studies, UAE

Scholar Journal of Applied Sciences and Research, India

Journal of Sustainable Energy & Environment, Thailand

International Journal of Plant-Based Pharmaceuticals, Turkey

Journal of Agriculture and Applied Biology, Indonesia

Environmental Protection Research, Universal Wiser Publisher, India

Reviewer Panel Member

Current Agriculture Research Journal, India

Frontiers in Sustainability: Circular Economy, Switzerland

Royal Society of Chemistry (RSC Advances), UK

Scientific refereeing

Applied Nanoscience, Springer

Bio interface Research in Applied Chemistry

Bioenergy Research, Springer

Biomass Conversion and Biorefinery, Springer

Biotech, MDPI

BMC Research Notes, Springer

Chemical Engineering Journal, Elsevier

Chemosphere, Elsevier

Current Agriculture Research Journal

Current Microbiology, Springer

Emerging Contaminants, Elsevier

Energies, MDPI

Energy Reports, Elsevier

Environment, Development and Sustainability, Springer

Environmental Research, Elsevier

Environmental Science and Pollution Research, Springer

FUEL, Elsevier

Journal of Cleaner Production, Elsevier

Renewable and Sustainable Energy Reviews, Elsevier
Gene Reports, Elsevier
Gene, Elsevier
Heliyon, Elsevier
International Journal of Environmental Research and Public Health, MDPI
International Journal of Hydrogen Energy, Elsevier
Journal of Molecular Liquids, Elsevier
Journal of Petroleum Exploration and Production Technology, Springer
Journal of Water Process Engineering, Elsevier
Marine Drugs, MDPI
Materials Circular Economy, Springer
Materials Today: Proceedings, Elsevier
Molecular Biotechnology, Springer
Renewable and Sustainable Energy Reviews, Elsevier
Sustainability, MDPI
Sustainable Energy Technologies and Assessments, Elsevier
Waste and Biomass Valorization, Springer

Citations

Total Citations (Google Scholar): 2313

h-index (Google Scholar): 27

Scholarships

PRAKASH BHUYAR, Doctoral Research Scholarship, Universiti Malaysia Pahang, Malaysia 2018 to 2021.

PRAKASH BHUYAR, Master Research Scholarship, Maejo University, Thailand 2020 to 2021.

Awards and honours

PRAKASH BHUYAR received the Travel Grant Award to carry out the research activity at National Taiwan University from the University Consortium (UC- SEARCA), Philippines Sept 2023

PRAKASH BHUYAR received the best archiver award for being selected from the 2% Scientists recognized by Stanford University by Maejo University President at Meho University, Thailand, Sept 2023

PRAKASH BHUYAR received the 2nd Runner Up Prize in the Falling Walls Lab Thailand competition, Easting Grand, Bangkok, Thailand, August 2023.

PRAKASH BHUYAR, Winner Prize, Mitsui Chemicals, Singapore, Tech Planter Malaysia, July 2020.

PRAKASH BHUYAR, Silver Medal, Poster Competition in Citrex 2019, University Malaysia Pahang, Malaysia, March 2019.

PRAKASH BHUYAR received first prize in the 3MNT Thesis competition at Universiti Malaysia Pahang, Malaysia, in September 2018.

PRAKASH BHUYAR, Third prize in English Elocution, Shivaji University, India, June 2014.

Personal Information

Citizenship: INDIAN

Sex: MALE

Marital Status: MARRIED

DOB: 01 September 1990

Passport Details: Z6817983 (Expiry: 08/10/2033)

References

Dr. Natanamurugaraj Govindan, Ph.D. Faculty of Industrial Science and Technology, Universiti Malaysia Pahang, Malaysia. Email: natanam80@gmail.com

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Prof. Dr. Wolfram Spreer, Ph.D. Advanced Irrigation Management, Weihenstephan-Triesdorf University, Germany. Email: wolfram.spreer@hswt.de