# CURRICULUM VITAE

| A. BUTIR-BUTIR PERIBADI *(Personal Details)* | | |
|---|---|---|
| Nama Penuh *(Full Name)* | **Siti Aqlima binti Ahmad** | Gelaran *(Title):* **Prof. Madya Dr.** |
| Warganegara *(Citizenship)* **Malaysian** | Bangsa *(Race)* **Malay** | Jantina *(Gender)* **Female** |
| Jawatan *(Designation)* **Associate Professor (DS54)** | | Tarikh Lahir *(Date of Birth)* **31/05/1982** |

| Alamat Semasa *(Current Address)* | Jabatan/Fakulti *(Department/Faculty)* | E-mel dan URL *(E-mail Address and URL)* |
|---|---|---|
| Department Of Biochemistry, Faculty Of Biotechnology And Biomolecular Sciences, Universiti Putra Malaysia, 43400 UPM Serdang, Selangor Darul Ehsan, Malaysia | Department Of Biochemistry, Faculty Of Biotechnology And Biomolecular Sciences. | E-mail: aqlima@upm.edu.my<br>URL:<br>H/P: 012-6408989 |

| **B. KELAYAKAN AKADEMIK *(Academic Qualification)*** | | | |
|---|---|---|---|
| Nama Sijil / Kelayakan *(Certificate / Qualification obtained)* | Nama Sekolah Institusi *(Name of School / Institution)* | Tahun *(Year obtained)* | Bidang pengkhususan *(Area of Specialization)* |
| PhD. | Universiti Putra Malaysia | 2012 | Biochemistry |
| Masters. | Universiti Putra Malaysia | 2007 | Biochemistry |
| Degree. | Universiti Putra Malaysia | 2004 | Biochemistry |

| **C. KEMAHIRAN BAHASA** *(Language Proficiency)* | | | | | |
|---|---|---|---|---|---|
| Bahasa / *Language* | Lemah *Poor (1)* | Sederhana *Moderate (2)* | Baik *Good (3)* | Amat Baik *Very good (4)* | Cemerlang *Excellent (5)* |
| English | | | | / | |
| Bahasa Melayu | | | | / | |
| Arabic | / | | | | |
| Lain-lain *(other): Japanese* | | | | | |

| **D. PENGALAMAN SAINTIFIK DAN PENGKHUSUSAN** ***(Scientific experience and Specialisation)*** | | | | |
|---|---|---|---|---|
| *Organization* | *Position* | *Start Date* | *End Date* | *Expertise* |

| | | | | |
|---|---|---|---|---|
| Universiti Putra Malaysia | Research Assistant | 1/12/2004 | 31/4/2006 | Biochemistry/Bioremediation |

**E. PEKERJAAN** ***(Employment)***

| Majikan / *Employer* | *Position* | *Start Date* | *End Date* | *Expertise* |
|---|---|---|---|---|
| Universiti Putra Malaysia | Research Assistant | 1/12/2004 | 31/4/2006 | Biochemistry |
| Hospital Kuala Lumpur, Medical Malaysian Association (MMA) | Research Officer | 1/8/2006 | 31/1/2007 | Biomedicine |

**F. ANUGERAH DAN HADIAH** *(Honours and Awards)*

| *Name of awards* | *Title* | *Award Authority* | *Award Type* | *Year* |
|---|---|---|---|---|
| | Young Polar Scientists | Yayasan Penyelidikan Antartika Sultan Mizan (YPASM) | NATIONAL | 2022 |
| | Second Prize (Environmental Microbiology) | 30th Symposium of Malaysian Society for Microbiology. Hyatt Regency Resort, Kuantan, Pahang. | NATIONAL | 2008 |
| | Gold Medal | ITEX 2006, 17th International Exhibition for Inventions, Innovations, Technology and Industrial Design, Malaysian Invention and Design Society (MINDS). 19-21st of May, Kuala Lumpur Convention Centre, Kuala Lumpur, Malaysia | NATIONAL | 2006 |
| | Silver Medal | ITEX 2006, 17th International Exhibition for Inventions, Innovations, Technology and Industrial Design, Malaysian Invention and Design Society (MINDS). 19-21st of May, Kuala Lumpur Convention Centre, Kuala Lumpur, Malaysia | NATIONAL | 2006 |
| | Gold Medal | Expo Science Technology and Innovation, 26-28th of August, 2004, Tun Razak Hall 1, Putra World Trade | NATIONAL | 2004 |

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|---|---|---|---|---|
| | | Centre, Kuala Lumpur. | | |
| | Best Research for Environmental Studies.<br>Bachelor of Science (Hons). | ICI DULUX AWARD | UNIVERSITY | 2004 |
| *Awards of Merit* | | | | |

**G. SENARAI PENERBITAN (Sila masukan nama pengarang, tajuk, nama jurnal, jilid, muka surat dan tahun diterbitkan)** *(List of publications – author (s), title, journal, volume, page and year published)*

*Journal*

1. Yap, H.S., Khalid, F.E., Wong, R.R., Convey, P., Sabri, S., Khalil, K.A., Zulkharnain, A., Merican, F., Shaari, H. and **Ahmad, S.A.** (2025) Optimisation of diesel degradation and growth kinetic modelling by Antarctic *Janthinobacterium lividum*. Biocatalysis and Agricultural Biotechnology, 2025, 66, 103573. https://doi.org/10.24425/ppr.2025.154566
2. Zahri, K.N.M., Sabri. S., Gomez-Fuentes, C., Khalil, K.A., Convey, P., Zulkharnain, A. and **Ahmad, S.A.** (2025) Molecular identification of Antarctic canola oil-degrading bacteria. Polish Polar Research, 46(3), 167–184
3. Chia, K.F., Wong, C.Y., Koh, R.Y., Lee, C.S., Chye, S.M., Kok, Y.Y., **Ahmad, S.A.,** Convey, P., Tavie, L.C., Wang, W., Luo, J., Nissapatorn, V. and Lim, C.L. (2025) Adaptations, cultivation and commercial prospects of polar microalgae. Advances in Polar Science, 36(1), 18–40.
4. Puan, S.L., Erriah, P., Yahaya, N.M., Ali, M.S.M., **Ahmad, S.A.,** Oslan, S.N., Baharum, S.N., Salleh, A.B. and Sabri, S. **(2025)** Genome-guided identification and characterisation of broad-spectrum antimicrobial compounds of *Bacillus velezensis* strain PD9 isolated from stingless bee propolis. Probiotics and Antimicrobial Proteins. https://doi.org/10.1007/s12602-025-10451-3
5. Rahman, M.M., Sazili, A.Q., **Ahmad, S.A.,** Khalil, K.A., Ismail-Fitry, M.R., Afsana, A.S. and Sarker, M.S.K (**2025**) Fatty acid profile and bio-preservative efficacy of lactic acid bacteria postbiotics for improving microbiological safety in broiler meat. Food Control, 2026, 181, 111769. https://doi.org/10.1016/j.foodcont.2025.111769
6. Rahman, M.M., Sazili, A.Q., **Ahmad, S.A.,** Khalil, K.A., Ismail-Fitry, M.R., Afsana, A.S. and Sarker, M.S.K (**2025**) Inhibitory efficacy, production dynamics, and characterization of postbiotics of lactic acid bacteria. BMC Microbiology, 2025, 25(1), 485. https://doi.org/10.1186/s12866-025-04123-z
7. Rahman, M.M., Sazili, A.Q., **Ahmad, S.A.,** Khalil, K.A., Ismail-Fitry, M.R., Afsana, A.S., Islam, A., Foruzanfard, M. and Sarker, M.S.K (**2025**) Bio-preservation effect of lactic acid bacteria postbiotics on physical, chemical, and sensory properties of vacuum-packaged broiler breast meat. Applied Food, 5(2), 101260. https://doi.org/10.1016/j.afres.2025.101260

8. Sawalha H, **Ahmad SA,** Shaharuddin NA, Sanusi R, Azzeme AM, Naganthran A, De Silva C, Abiri R **(2024)** Antibacterial activity of green silver nanoparticles on the in vitro pathogen infected *Eucalyptus pellita* plant. Plant Cell, Tissue and Organ Culture.156(3): 73. https://doi.org/10.1007/s11240-024-02703-x
9. Yap, H.S., Khalid, F.E., Wong, R.R., Convey, P., Sabri, S., Khalil, K.A., Zulkharnain, A., Merican, F., Shaari, H. and **Ahmad. S.A. (2024)** Diesel-biodegradation and biosurfactant-production by *Janthinobacterium lividum* AQ5-29 and *Pseudomonas fildesensis* AQ5-41 isolated from Antarctic soil. International Biodeterioration and Biodegradation, 188: 105731. https://doi.org/10.1016/j.ibiod.2024.105731
10. Tengku-Mazuki, T.A., Darham, S., Convey, P., Shaharuddin, N.A., Zulkharnain, A., Khalil, K.A., Zahri, K.N.M., Subramaniam, K., Merican, F., Gomez-Fuentes, C. and **Ahmad, S.A. (2024**) Effects of heavy metals on bacterial growth parameters in degradation of phenol by an Antarctic bacterial consortium. Brazilian Journal of Microbiology, https://doi.or/10.1007/s42770-023-01215-8ial
11. Zamree ND, Puasa NA, Lim ZS, Wong C-Y, Shaharuddin NA, Zakaria NN, Merican F, Convey P, Ahmad S, Shaari H, Azmi AA, **Ahmad SA,** Zulkharnain, A (**2023**) The utilisation of Antarctic microalgae isolated from Paradise Bay (Antarctic Peninsula) in the bioremediation of diesel. Plants 12:2536 https://doi.org/10.3390/plants12132536
12. Khalid, F.E.; Zakaria, N.N.; Azmi, A.A.; Shaharuddin, N.A.; Sabri, S.; Khalil, K.A.; Gomez-Fuentes, C.; Zulkharnain, A.; Lim, S.; **Ahmad, S.A.** Guinea Grass (Megathyrsus maximus) Fibres as Sorbent in Diesel Bioremediation. Sustainability **2023**, 15, 3904. https:// doi.org/10.3390/su15053904
13. Darham, S., Zakaria, N.N., Zulkharnain, A., Sabri, S., Abdul Khalil, K., Merican, F., Gomez-Fuentes, C., Lim, S. and **Ahmad, S.A.** (**2023**) Antarctic heavy metal pollution and remediation efforts: state of the art of research and scientific publications. Brazilian Journal of Microbiology. https://doi.org/10.1007/s42770-023-00949-9
14. Sato, K., Take, S., Ahmad, S.A., Gomez-Fuentes, C., Zulkharnain, A. Carbazole degradation and genetic analyses of *Sphingobium* sp. strain BS19 isolated from Antarctic soil. Sustainability **2023**,15,7197. https://doi.org/10.3390/su15097197
15. Shazmin, Ahmad, S.A., Naqvi, T.A., Munis, M.F.H., Javed, M.T., Chaudhary, H.J. (2023) Biodegradation of monocrotophos by *Brucella intermedia* Msd2 isolated from cotton plant. World Journal of Microbiology and Biotechnology 39:141 https://doi.org/10.1007/s11274-023-03575-7
16. Verasoundarapandian, G., Lim, Z.S., Radziff, S.B.M., Taufik, S.H., Puasa, N.A., Shaharuddin, N.A., Merican, F., Wong, C.-Y., Lalung, J. and **Ahmad, S.A.** (**2022**) Remediation of pesticides by microalgae as feasible approach in agriculture: bibliometric strategies. Agronomy,12,117. https://doi.org/10.3390/agronomy12010117
17. Puasa, N.A., **Ahmad, S.A.,** Zakaria, N.N., Khalil, K.A., Taufik, S.H., Zulkharnain, A., Azmi, A.A., Gomez-Fuentes, C., Wong, C.-Y. and Shaharuddin, N.A. (**2022**) Oil palm's empty fruit bunch as

a sorbent material in filter system for oil-spill clean up. Plants, 11, 127. https://doi.org/10.3390/plants11010127

18. Verasoundarapandian, G., Lim, Z.S., Radziff, S.B.M., Taufik, S.H., Puasa, N.A., Shaharuddin, N.A., Merican, F., Wong, C.-Y., Lalung, J. and **Ahmad, S.A.** (**2022**) Remediation of pesticides by microalgae as feasible approach in agriculture: bibliometric strategies. Agronomy,12,117. https://doi.org/10.3390/agronomy12010117
19. Naganthran, A., Verasoundarapandian, G., Khalid, F.E., Masarudin, M.J., Zulkharnain, A., Nawawi, N.M., Karim, M., Che Abdullah, C.A. and **Ahmad, S.A.** (**2022**) Synthesis, characterization and biomedical application of silver nanoparticles. Materials, 15, 427. https://doi.org/10.3390/ma15020427
20. Puasa, N.A., **Ahmad, S.A.,** Zakaria, N.N., Shaharuddin, N.A., Khalil, K.A., Azmi, A.A., Gomez-Fuentes, C., Merican, F., Zulkharnain, A., Kok, Y.-Y., Wong, C.Y. **(2022)** Utilisation of oil palm's empty fruit bunch spikelets for oil-spill removal. Agronomy, 12, 535. https://doi.org/10.3390/agronomy12020535
21. Nordin, N., Abdulla, R., Ahmad, S.A. and Sabullah, M.K. Acetylcholinesterase (AChE) of Diodon hystrix brain as an alternative biomolecule in heavy metals biosensing. Journal of Applied Science and Engineering (Taiwan), 2022, 25(3), pp. 473–480
22. De Silva, C., Nawawi, N.M., Abd Karim, M.M., Abd Gani, S., Masarudin, M.J., Gunasekaran, B. and **Ahmad, S.A.** The mechanistic action of biosynthesised silver nanoparticles and its application in aquaculture and livestock industries. Animals, Cited, 2.725, 2021, 11, 2097. https://doi.org/10.3390/ani11072097
23. Puasa, N.A., Zulkharnain, A., Verasoundarapandian, G., Wong, C.-Y., Zahri, K.N.M., Merican, F., Shaharuddin, N.A., Gomez-Fuentes, C. and **Ahmad, S.A**. Effects of diesel, heavy metals and plastics pollution on penguins in Antarctica: A review. Animals, Cited, 2.725, 2021, 11, 2505. https://doi.org/10.3390/ani11092505
24. Roslee, A.F.A., Gomez-Fuentes, C., Zakaria, N.N., Shaharuddin, N.A., Zulkharnain, A., Abdul Khalil, K., Convey, P. and **Ahmad, S.A.** Growth optimisation and kinetic profiling of diesel biodegradation by a cold-adapted microbial consortium isolated from Trinity Peninsula, Antarctica. Biology, Cited, 3.796, 2021,10,493. https://doi.org/10.3390/biology10060493
25. Yap, H.S., Zakaria, N.N., Zulkharnain, A., Sabri, S., Gomez-Fuentes, C. and **Ahmad, S.A.** Bibliometric analysis of hydrocarbon bioremediation in cold regions and a review on enhanced soil bioremediation. Biology, Cited, 3.796, 2021, 10, 354. https://doi.org/10.3390/biology10050354
26. Ahmad, T., Ismail, A., **Ahmad, S.A.,** Abdul Khalil, K., Awad, E.A., Akhtar, M.T., Sazili, A.Q. Recovery of gelatin from bovine skin with the aid of pepsin and its effects on the characteristics of the extracted gelatin. Polymers, Cited, 4.329, 2021, 13, 1554. https://doi.org/10.3390/polym13101554
27. Sawalha, H., Abiri, R., Sanusi, R., Shaharuddin, N.A., Noor, A.A.M., Ab Shukor, N.A., Abdul-Hamid, H. and **Ahmad, S.A.** Toward a better understanding of metal nanoparticles, a novel strategy from Eucalyptus plants. Plants, Cited, 3.935, 2021, 10,

929. https://doi.org/10.3390/plants10050929

28. Zuhar, L.M., Madihah, A.Z., **Ahmad, S.A.**, Zainal, Z., Idris, A.S. and Shaharuddin N.A. Identification of oil palm's consistently upregulated genes during early infections of *Ganoderma boninense* via RNA-Seq technology and real-time quantitative PCR. Plants, Cited, 3.935, 2021, 10, 2026. https://doi.org/10.3390/plants10102026
29. Wong, R.R., Lim, Z.S., Shaharuddin, N.A., Zulkharnain, A., Gomez-Fuentes, C. and **Ahmad, S.A.** Diesel in Antarctica and a bibliometric study on its indigenous microorganisms as remediation agent. International Journal of Environmental Research and Public Health, 2.849, 2021, 18, 1512. https://doi.org/10.3390/ijerph18041512
30. Verasoundarapandian, G., Wong, C.-Y., Shaharuddin, N.A., Gomez-Fuentes, C., Zulkharnain, A. and **Ahmad, S.A.** A review and bibliometric analysis on applications of microbial degradation of hydrocarbon contaminants in Arctic marine environment at metagenomic and enzymatic levels. International Journal of Environmental Research and Public Health, Cited, 2.849, 2021, 18, 1671. https://doi.org/10.3390/ijerph18041671
31. Zahri, K.N.M., Zulkharnain, A., Sabri, S., Gomez-Fuentes, C. and **Ahmad, S.A.** Research trends of biodegradation of cooking oil in Antarctica from 2001 to 2021: a bibliometric analysis based on scopus database. International Journal of Environmental Research and Public Health, Cited, 2.849, 2021, 18, 2050. https://doi.org/10.3390/ijerph18042050
32. Lim, Z.S., Wong, R.R., Wong, C.Y, Zulkharnain, A., Shaharuddin, N.A. and **Ahmad, S.A.** Bibliometric analysis of research on diesel pollution in Antarctica and a review on remediation techniques. Applied Sciences, Cited, 2.474, 2021, 11:1123. https://dx.doi.org/10.3390/app11031123
33. Khalid, F.E., Lim, Z.S., Sabri, S., Gomez-Fuentes, C., Zulkharnain, A. and **Ahmad, S.A.** Bioremediation of diesel contaminated marine water by bacteria: a review and bibliometric analysis. Journal of Marine Science and Engineering, Cited, 2.033, 2021, 9, 155. https://doi.org/10.3390/jmse9020155
34. Zakaria, N.N., Convey, P., Gomez-Fuentes, C., Zulkharnain, A., Sabri, S., Shaharuddin, N.A. and **Ahmad, S.A.** Oil bioremediation in the marine environment of Antarctica: A review and bibliometric keyword cluster analysis. Microorganisms, Cited, 4.152, 2021, 9, 419. https://doi.org/10.3390/microorganisms9020419
35. Zahri, K.N.M., Zulkharnain, A., Gomez-Fuentes, C., Sabri, S., Abdul Khalil, K., Convey, P., **Ahmad, S.A.** The use of response surface methodology as a statistical tool for the optimisation of waste and pure canola oil biodegradation by Antarctic soil bacteria. Life, Cited, 2.999, 2021, 11: 456. https://doi.org/10.3390/life11050456
36. Darham, S., Zahri, K.N.M., Zulkharnain, A., Sabri, S., Gomez-Fuentes, C., Convey, P., Khalil, K.A., **Ahmad, S.A.** Statistical optimisation and kinetic studies of molybdenum reduction using a psychrotolerant marine bacteria isolated from Antarctica. Journal of Marine Science and Engineering, Cited, 2.033, 2021, 9, 648. https://doi.org/10.3390/jmse9060648

37. Zakaria, N.N., Gomez-Fuentes, C., Abdul Khalil, K., Convey, P., Roslee, A.F.A., Zulkharnain, A., Sabri, S., Shaharuddin, N.A., Cárdenas, L. and **Ahmad, S.A.** Statistical optimisation of diesel biodegradation at low temperatures by an Antarctic marine bacterial consortium isolated from non-contaminated seawater. Microorganisms, Cited, 4.152, 2021, 9, 1213. https://doi.org/10.3390/microorganisms9061213
38. Darham, S., Syed-Muhaimin, S.N., Subramaniam, K., Zulkharnain, A., Shaharuddin, N.A., Khalil, K.A. and **Ahmad, S.A.** Optimisation of various physicochemical variables affecting molybdenum bioremediation using Antarctic bacterium, *Arthrobacter* sp. strain AQ5-05. Water, Cited, 3.103, 2021, 13, 2367. https://doi.org/10.3390/w13172367
39. Zahri, K.N.M.; Gomez-Fuentes, C.; Sabri, S.; Zulkharnain, A.; Khalil, K.A.; Lim, S.; **Ahmad, S.A.** Evaluation of heavy metal tolerance level of the Antarctic bacterial community in biodegradation of waste canola oil. Sustainability, Cited, 3.251, 2021,13,10749. https://doi.org/10.3390/su131910749
40. Ngalimat, M.S., Yahaya, R.S.R., Baharudin, M.M.A.-a., Yaminudin, S.M.., Karim, M., **Ahmad, S.A.** and Sabri, S. A Review on the biotechnological applications of the operational group *Bacillus amyloliquefaciens*. Microorganisms, Cited, 4.152, 2021, 9, 614. https://doi.org/10.3390/microorganisms9030614
41. Yahaya R.S.R., Normi, Y.M., Phang, L.Y., **Ahmad, S.A.,** Abdullah, J.O. and Sabri, S. Molecular strategies to increase keratinase production in heterologous expression systems for industrial applications. Applied Microbiology and Biotechnology, Cited, 3.530, 2021 https://doi.ORG/10.1007/s00253-021-11321-y.
42. Roslee, A.F.A., **Ahmad, S.A.,** Gomez-Fuentes, C., Shaharuddin, N.A., Khalil, K.A., Zulkharnain, A. Scientometric analysis of diesel pollutions in antarctic territories: a review of causes and potential bioremediation approaches. Sustainability, Cited, 3.251, 2021, 13, 7064. https://doi.org/10.3390/su13137064
43. Maliki, I.M., Abdul-Manas, N.H., **Ahmad, S.A.,** Fuse, H., Ramírez-Moreno, N. and Zulkharnain, A. Removal of heterocyclic compound carbazole using cell immobilization of *Thalassospira profundimaris* strain M02. Revista Mexicana de Ingeniería Química, Cited, 1.139, 2021, 20, 413-422. https://doi.org/10.24275/rmiq/Bio1808
44. Zahri, K.N.M., Zulkharnain, A., Gomez-Fuentes, C., Sabri, S. and **Ahmad, S.A.** Study of growth kinetics of Antarctic bacterial community for biodegradation of waste canola oil. Desalination and Water Treatment, Cited, 0.894, 2021, 213: 128-138. https://doi.org/10.5004/dwt.2021.26692
45. Hassan, I.M., Wan Ibrahim, W.N., Yusuf, F.M., **Ahmad, S.A.** and Ahmad, S. Neuroprotective and antioxidant effect of *Curcuma longa* (Rhizome) methanolic extract on SH-SY5Y cells and Javanese medaka. Pakistan Journal of Pharmaceutical Sciences, Cited, 0.596, 2021, 34(1), 47-56. PMID: 34248002.
46. De Silva, C., Mohd Noor, A.A., Abd Karim, M.M., Nawawi, N.M. and **Ahmad, S.A.** Preliminary antibacterial testing of biosynthesised silver nanoparticles against the marine aquatic pathogens *Vibrio alginolyticus* and *Vibrio harveyi*. Malaysian Journal of Biochemistry and Molecular Biology, Cited, Scopus,

2021, 23(1), 34-37

47. Maliki, I.M., Abdul Manas, N.H., **Ahmad, S.A.** and Zulkharnain, A. Expression, purification and characterization of extradiol dioxygenase CarBb involved in carbazole degradation pathway. Journal of Biochemistry and Molecular Biology, Cited, Scopus, 2021, 23(1), 77-82
48. Subramaniam, K., **Ahmad, S.A**., Convey, P., Shaharuddin, N.A., Khalil, K.A., Tengku-Mazuki, T.A., Gomez-Fuentes, C. and Zulkharnain, A. Statistical assessment of phenol biodegradation by a metal-tolerant binary consortium of indigenous Antarctic bacteria. Diversity, Cited, 2.465, 2021, 13, 643. https://doi.org/10.3390/d13120643
49. Radziff, S.B.M., **Ahmad, S.A**., Shaharuddin, N.A., Merican, F., Kok, Y.-Y., Zulkharnain, A., Gomez-Fuentes, C. and Wong, C.-Y. Potential Application of Algae in Biodegradation of Phenol: A Review and Bibliometric Study. Plants, Cited, 3.935, 2021, 10, 2677. https://doi.org/10.3390/plants10122677
50. Taufik, S.H., **Ahmad, S.A.**, Zakaria, N.N., Shaharuddin, N.A., Azmi, A.A., Khalid, F.E., Merican, F., Convey, P., Zulkharnain, A. and Abdul Khalil, K. Rice straw as a natural sorbent in a filter system as an approach to bioremediate diesel pollution. Water, Cited, 3.103, 2021, 13, 3317. https://doi.org/10.3390/w13233317
51. Verasoundarapandian, G., Zakaria, N.N., Shaharuddin, N.A., Khalil, K.A., Puasa, N.A., Azmi, A.A., Gomez-Fuentes, C., Zulkharnain, A., Wong, C.Y., Rahman, M.F. and **Ahmad, S.A.** Coco peat as agricultural waste sorbent for sustainable diesel-filter system. Plants, Cited, 3.935, 2021, 10, 2468. https://doi.org/10.3390/plants10112468
52. Khalid, F.E., **Ahmad, S.A.**, Zakaria, N.N., Shaharuddin, N.A., Sabri, S., Azmi, A.A., Khalil, K.A., Verasoundarapandian, G., Gomez-Fuentes, C. and Zulkharnain, A. Application of cogon grass (*Imperata cylindrica*) as biosorbent in diesel-filter system for oil spill removal. Agronomy, Cited, 3.336, 2021, 11, 2273. https://doi.org/10.3390/agronomy11112273
53. Zahri, K.N.M., Khalil, K.A., Gomez-Fuentes, C., Zulkharnain, A., Sabri, S., Convey, P., Lim, S. and **Ahmad, S.A.** Mathematical modelling of canola oil biodegradation and optimisation of biosurfactant production by an Antarctic bacterial consortium using response surface methodology. Foods, Cited, 4.121, 2021, 10, 2801. https://doi.org/10.3390/foods10112801
54. Tan, H.T., Yusoff, F.M., Khaw, Y.S., **Ahmad, S.A.** and Shaharuddin, N.A. Uncovering Research Trends of Phycobiliproteins Using Bibliometric Approach. Plants, Cited, 3.935, 2021, 10, 2358. https://doi.org/10.3390/plants10112358
55. Zamal, S.H., Khayat, M.E., Rahim, M.B.H.A., **Ahmad, S.A.** and Gani, S.A. In vitro antioxidant and antidiabetic properties of silver nanoparticle synthesized by Serratia spp. Malaysian Journal of Biochemistry and Molecular Biology, Cited, Scopus, 2021 24(3), 113–126.

| **H. PROJEK PENYELIDIKAN TERDAHULU** *(Past Research Project)* | | | | | |
|---|---|---|---|---|---|
| *Project No.* | *Project Title* | *Role* | *Year* | *Source of fund* | *Status* |
| 1. | Physiological and biological changes of freshwater fish, *Puntius javanicus*, in heavy metals polluted environment. | Chairman | 2013 | FRGS<br>RM 112,500 | Completed |
| 2. | Anti-hypercholesterolemic and anti-atheroscleration effects of *Acalypha indica*. | Chairman | 2014 | PUTRA-IPM<br>RM 50,000 | Completed |
| 3. | *In vivo* and *in vitro* effects of copper on cholinesterase of *Oreochromis mossambicus*. | Chairman | 2016 | PUTRA-IPS<br>RM 20,000 | Completed |
| 4. | Isolation and characterisation of glyphosphate-degrading bacteria from different soils in Malaysia. | Chairman | 2016 | PUTRA-IPS<br>RM 20, 000 | Completed |
| 5. | Application of response surface methodology (RSM) for optimising phenol-degrading parameters by phenol-degrading bacteria from newly exposed fuel contaminated sites due to climate change in Signy Station, Antarctica. | Chairman | 2016 | Matching Grant (YPASM)<br>RM 38,170 | Completed |
| 6. | Biodegradation of phenol by isolated Antarctic bacteria. | Chairman | 2016 | YPASM Berth Support £25,000<br>RM 142,500 | Completed |
| 7. | Bioremediation of Antarctic soils of Bernardo O'Higgins station. | Chairman | 2017 | Matching Grant Putra<br>RM 149,980 | Completed |
| 8. | *In vivo* & *in vitro* studies on the effects of zinc exposure on *Clarias gariepinus.* | Chairman | 2017 | PUTRA-IPS<br>RM 25,000 | Completed |
| 9. | *In vivo* & *in vitro* studies on the effects of aluminium exposure on *Clarias gariepinus.* | Chairman | 2018 | PUTRA-IPS<br>RM 25,000 | Completed |

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| 10. | Bioremediation of Antarctic soils of Bernardo O'Higgins station. | Chairman | 2018 | International travel grant<br>USD 6,000<br>RM 24,000 | Completed |
| 11. | Interaction among the Antarctic isolates on biodegradation of phenol | Chairman | 2018 | PUTRA-IPS<br>RM 25,000 | Completed |
| 12. | Diversity and biogeography of Soil Bacteria Degrading Phenol | Chairman | 2018 | Geran Putra Berimpak<br>RM 150,000 | Completed |
| 13. | International travel grant: Bioremediation of Antarctic soils of Bernardo O'Higgins station. International travel grant, USD 6,000 | Chairman | 2018 | CIMAA<br>USD 6,000 (RM 24,000) | Completed |
| 14. | Optimisation of diesel degradation and biosurfactant production by soils consortium isolated from Bernardo O'Higgins Station, Antarctica for bioremediation of diesel pollution. | Chairman | 2018 | Geran Putra Berimpak,<br>RM 150,000 | Completed |
| 15. | Second stage of bioreactor design for cold-adapted bioremediation of Antarctic soils contaminated with diesel hydrocarbons. | Chairman | 2019 | Yayasan Penyelidikan Antarctica Sultan Mizan (YPASM)-Smart Partnership Initiative 2019<br>RM 150,000 | Completed |