

Research outputs

Enhanced productivity, quality and heating uniformity by stacking oil palm fruits under microwave irradiation

Shah, S. M. A., Shen, Y. J., Salema, A. A., Lee, Y.-Y., Balan, P., Hassan, N. S. M., Siran, Y. M. & Rejab, S. A. M., Sept 2022, In: *International Journal of Thermal Sciences*. 179, 13 p., 107634.

Corrosion protection enhancement of Mg alloy WE43 by in-situ synthesis of MgFe LDH/citric acid composite coating intercalated with 8HQ

Tan, J. K. E., Birbilis, N., Choudhary, S., Thomas, S. & Balan, P., 15 Aug 2022, In: *Corrosion Science*. 205, 14 p., 110444.

An integrated microwave-steam sterilisation method to add value to loose oil palm fruits

Shah, S. M. A., Salema, A. A., Lee, Y. Y., Balan, P., Hassan, N. S. M., Siran, Y. M. & Rejab, S. A. M., 3 Jun 2022, p. 35-39. 5 p.

Energy policies shaping the solar photovoltaics business models in Malaysia with some insights on Covid-19 pandemic effect

Koerner, S. A., Siew, W. S., Salema, A. A., Balan, P., Mekhilef, S. & Thavamoney, N., May 2022, In: *Energy Policy*. 164, 14 p., 112918.

Corrosion-resistant Mg(OH)₂/Mg-Fe layered double hydroxide (LDH) composite films on magnesium alloy WE43

Tan, J. K. E., Balan, P., Birbilis, N. & Manivasagam, G., Feb 2022, In: *Journal of the Taiwan Institute of Chemical Engineers*. 131, 12 p., 104169.

The hydrogen evolution of pure magnesium in different electrolytes

Salleh, S. H., Jantan, W. E., Malek, R. A., Abdullah, S. S. C. & Balan, P., 3 May 2021, *Proceedings of Green Design and Manufacture 2020*. Rahim, S. Z. A., Saad, M. N. M., Abdullah, M. M. A. B., Tahir, M. F. M. & Mortar, N. A. M. (eds.). American Institute of Physics, 020238. (AIP Conference Proceedings; vol. 2339).

Advances in LDH coatings on Mg alloys for biomedical applications: A corrosion perspective

Tan, J. K. E., Balan, P. & Birbilis, N., 1 Mar 2021, In: *Applied Clay Science*. 202, 21 p., 105948.

Influence of pH on corrosion resistance of electrodeposited Mg-Fe LDH composite films on Mg alloys WE43

Balan, P., Tan, J. K. E., N A N, R. & Nayak, S., 2021, *32nd Symposium of Malaysian Chemical Engineers (SOMChE2021)*. IOP Publishing, 9 p. 012036. (IOP Conference Series: Materials Science and Engineering; vol. 1195).

Life-cycle assessment and life-cycle cost analysis of decentralised rainwater harvesting, greywater recycling and hybrid rainwater-greywater systems

Leong, J. Y. C., Balan, P., Chong, M. N. & Poh, P. E., 20 Aug 2019, In: *Journal of Cleaner Production*. 229, p. 1211-1224 14 p.

Corrosion of additively manufactured alloys: a review

Sander, G., Tan, J., Balan, P., Gharbi, O., Feenstra, D. R., Singer, L., Thomas, S., Kelly, R. G., Scully, J. R. & Birbilis, N., 1 Dec 2018, In: *Corrosion*. 74, 12, p. 1318-1350 33 p.

Application of research skill development (RSD) in sustainable engineering teaching and learning

Balan, P., K T George, S. & Minh Hien, T., 2017, *28th Annual Conference of the Australasian Association for Engineering Education (AAEE 2017)*. Australasian Association for Engineering Education (AAEE), p. 1049-1057 8 p.

Effectiveness of lanthanum triflate activated silica nanoparticles as fillers in silane films for corrosion protection of low carbon steel

Balan, P., Raman, R. K. S., Chan, E-S., Harun, M. K. & Swamy, V., 1 Jan 2016, In: *Progress in Organic Coatings*. 90, p. 222-234 13 p.

Effect of lanthanide activated nano-SiO₂ on the corrosion behavior of silane-based hybrid coatings on low carbon steel

Balan, P., Chan, E. S., Harun, M. K., Swamy, V. & Singh, R. R. K., 2015, In: *Materials and Corrosion*. 66, 11, p. 1223 - 1231 9 p.

Synthesis of mixed strategy games in eco-industrial park using integrated analytic hierarchy process

Leong, Y. T., Tan, R. R., Balan, P. & Chew, I. M. L., 2015, In: *Chemical Engineering Transactions*. 45, October 2015, p. 1651 - 1656 6 p.

Modified silane films for corrosion protection of mild steel

Balan, P., Shelton, M. J., Ong, L. C., Gwee, C. H. & Palniandy, L. K., 2014, *Procedia Materials Science: 3rd International Conference on Materials Processing and Characterisation (ICMPC 2014)*. Singh, S. K. (ed.). Amsterdam Netherlands: Elsevier, Vol. 6. p. 244 - 248 5 p.

Effect of nanoparticle addition in hybrid sol-gel silane coating on corrosion resistance of low carbon steel

Balan, P., Ng, A., Siang, C. B., Singh, R. R. K. & Chan, E. S., 2013, In: *Advanced Materials Research*. 686, p. 244 - 249 6 p.

Promoting holistic education through design of meaningful and effective assignments in sustainable engineering

Balan, P. & Manickam, G., 2013, *Proceedings of IEEE International Conference on Teaching, Assessment and Learning for Engineering (TALE2013)*. Lee, M. J. W. (ed.). Piscataway NJ USA: IEEE, Institute of Electrical and Electronics Engineers, p. 382 - 385 4 p.

Enhancing student motivation in process control via interactive learning tools

Balan, P. & Kalavally, V., 2012, *T4E 2012 : IEEE Fourth International Conference on Technology for Education*. Kode, S. & Kinshuk (eds.). USA: IEEE, Institute of Electrical and Electronics Engineers, p. 176 - 179 4 p.

Prizes

ASEAN-India Research Training Fellowship (AIRTF)

Balan, Poovarasi (Recipient), 30 Oct 2019

Projects

Investigation of Stimuli Induced Corrosion Inhibition and Osseointegration of Bioactive Glass Coatings for Orthopedic Implants

Balan, P., Kadirvelu, A., Ilankoon, S., Birbilis, N. & Manivasagam, G.

1/01/19 → 30/09/22

Investigation on fracture repair and self-healing mechanism of graphene oxide coatings for cardiovascular stent application

Balan, P., Selvaratnam, L., Genasan, K., Zheludkevich, M. L. & Sundarajoo, M.

1/09/22 → 31/08/25

Sustainability Stewardship - Creating Change Agents

Balan, P.

1/08/21 → 31/07/22

Understanding Flow Mechanisms of Metal Leaching from Coarse Electronic Waste and Developing Economic Flow-sheets for Electronic Waste Based Metal Extraction

Ilankoon, S., Balan, P., Binti Abd Manaf, L., Meng Nan, C. & Ta Yeong, W.

1/01/19 → 30/09/22