



الكلية الدولية للهندسة والإدارة  
International College of  
Engineering & Management



# ICEM RESEARCH NEWSLETTER



Issue 1/August 2022

# ICEM RESEARCH PUBLICATIONS SOARING GREATER HEIGHTS

The research output of the International College of Engineering and Management (ICEM) has steadily increased in recent years. The rise in research papers in renowned journals is evidence of this. According to the college's strategic plan, this consistent expansion supports the college's ongoing commitment to making intellectual contributions. Our most recent collaborations and research networks with other international universities also serve as examples of the success of our research. In the academic year 2021–2022, faculty and students produced more than 75 research articles, according to a summary of the college's research accomplishments.



## Publications Affiliated with ICEM in AY2021/22

1. Don Anton, Alegre, R.A., Lopez, M.R.S. and Balida, G.J.D., 2022. Perspectives on Covid19 Safety Protocols among Non-Native English Speaking Teachers and Students. World Journal of English Language, 12(1).

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2. Alazaiza, M.Y., AbdelFattah, F.A.M., Al Maskari, T., Bashir, M.J., Nassani, D.E., Albahnasawi, A., Abushammala, M.F.M. and Rami Hamad, 2022. Effect of COVID-19 pandemic on food purchasing and waste generation during the lockdown period in The Sultanate of Oman, Global NEST Journal. [https://journal.gnest.org/publication/gnest\\_04157](https://journal.gnest.org/publication/gnest_04157)

3. Victor O. Otitolaiye and Al-Harethiya, G.M., 2022. Impacts of petroleum refinery emissions on the health and safety of local residents. Journal of Air Pollution and Health, 7(1), pp.69-80.

<https://japh.tums.ac.ir/index.php/japh/article/view/336>

4. Girma T. Chala, and Negash, B.M., 2022. Artificial Neural Network and Regression Models for Predicting Intrusion of Non-Reacting Gases into Production Pipelines. Energies, 15(5), p.1725.

<https://www.mdpi.com/1996-1073/15/5/1725>

5. Victor O. Otitolaiye, Munauwar Mustafa, Faris Omer, Rasha Abdelrahim, 2022. Conservation and Sustainable Use Awareness among Visitors and Tour Operators of Marine Parks: Concise Review of the Benefits and Programs for Protecting Marine Biodiversity, Journal of Environment, Agriculture, and Energy. <https://genesissus.eu/drc/marine/>

6. Rasool, M.H., Asif Zamir, Elraies, K.A., Ahmad, M., Ayoub, M. and Abbas, M.A., 2022. A Deep Eutectic Solvent based novel drilling mud with modified rheology for hydrates inhibition in deep water drilling. Journal of Petroleum Science and Engineering, p.110151.

<https://www.sciencedirect.com/science/article/abs/pii/S0920410522000456>

7. Bemgba B. Nyakuma, Olagoke Oladokun, Abubakar S. Mahmoud, Victor B. Adebayo, Samuel-Soma M. Ajibade, Abbas S. El-nafaty, Victor O. Otitolaiye, Zainab T. Jagun. Urban Air Pollution and its Effects on Health, Safety and the Environment in Nigeria: A Concise Review, Petroleum and Coal, 1-18.

8. Lim, J.W., Rishindren, M., Nor, M.I. and Girma T. Chala, 2022. Performance Analysis of Blended Tyre Pyrolysis Oil (TPO) Against Diesel in A YANMAR TF-120 Single Cylinder Diesel Engine. International Journal of Applied Engineering and Technology, 4(1), pp.1-5.

<https://romanpub.com/resources/ijaet%20v4-1-2022-01.pdf>

**9.** Rami Hamad, Al Hallaq, K.A., Tayeh, B.A., Nassar, S.S., 2022. 'Risk Analysis and Waste Management for Construction and Demolition Projects in the Gaza Strip', Jordan Journal of Civil Engineering, Vol 16. No.3.

<https://www.proquest.com/openview/e9d306ab342a25df9c556b5e801466cf/1?pq-origsite=gscholar&cbl=2035891>

**10.** M. I. N. Ma'arof, Nurfarah Kamarudin, Girma T. Chala, Timur Izmailov, 2022. Anti-Lift Assessment of Multi-Flap Motorcycle Winglet for Track Usage Via Wind Tunnel Test, International Journal of Emerging Technology and Advanced Engineering.

[https://ijetae.com/files/Volume12Issue4/IJETAE\\_0422\\_06.pdf](https://ijetae.com/files/Volume12Issue4/IJETAE_0422_06.pdf)

**11.** Suvarna Raju P, Al-Ghassani M, Victor O. Otitolaiye, Faris Omer, Riyadh Mahfud, 2022. Effects of Discharged Effluents from Desalination Plants on Marine Living Organisms, International Journal of Mechanical Engineering. [https://kalaharijournals.com/resources/febV7\\_I2\\_358.pdf](https://kalaharijournals.com/resources/febV7_I2_358.pdf)

**12.** Suvarna Raju P, Al-Rawahi, M, Riyadh Mahfud, Victor O. Otitolaiye., 2022. Effects of Mercury Concentration on the Health and Safety of Oil and Gas Workers, International Journal of Occupational Safety and Health.

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**13.** Girma T. Chala, Chin L. Liew, Shaharin A. Sulaiman, Muddasser Inayat, Fiseha M. Guangul, Parametric Investigation of Empty Fruit Bunch Gasification using Response Surface Methodology, Petroleum and Coal.

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**14.** Abbas, M.A., Asif Zamir, Elraies, K.A., Mahmood, S.M., Asfattahi, N., Saidur, R., Ahmad, M. and Rasool, M.H., 2022. Characterization of nano based drilling fluid for shale swelling inhibition. Petroleum Science and Technology, pp.1-27.

<https://www.tandfonline.com/doi/abs/10.1080/10916466.2022.2048014>

**15.** Sadig, H., Girma T. Chala, and Abbas, A.H., 2022. Experimental Investigation On The Effect Of Length To Diameter Ratio (L/D) On The Performance Of Vortex Tube. NVEO-NATURAL VOLATILES & ESSENTIAL OILS Journall NVEO, pp.1261-1269.

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**16.** Victor O. Otitolaiye, Ubana DO, Suvarna Raju P, Otitolaiye AD., 2022. Uncovering Research Trends in Safety Culture in the Global Construction Industry: A Bibliometric Analysis (1995-2020), International Journal of Occupational Safety and Health.

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**17.** Hammad Rasool, M., Ahmad, M., Ayoub, M., Asif Zamir, and Adeem Abbas, M., 2022. A review of the usage of deep eutectic solvents as shale inhibitors in drilling mud. *Journal of Molecular Liquids*, 361.

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**18.** Suvarna Raju, Solomon Raju AJ, 2022. An ecological study of sexual reproduction in *Cissus quadrangularis* L. and *Cissus vitifolia* L. (Vitaceae) *Species Discovery Journal*(ISI,Clavirite)

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**19.** Alsedrani, M.Q. and Girma T. Chala, 2022. Investigation of the Effects of Silica Nanofluid for Enhanced Oil Recovery Applications: CFD Simulation Study. *Arabian Journal for Science and Engineering*, pp.1-20.

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**20.** MIN, M.A., JB, S., NHM, N., MS, M., Girma T. Chala, and Muhammad, A.W., 2022. Topology Optimization of an Engine Mounting Bracket. *International Journal of Emerging Technology and Advanced Engineering (IJETAE)*, 12(07), pp.1-6.

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**21.** George, A.S., Moideen, N., Varghese, S., Warrierc, A. and Khan, M.S., 2022. Accidents in the chemical industry: an analysis of the HFACS-PEFE model to examine the role of human factors. *Journal homepage: www. ijrpr. com* ISSN, 2582, p.7421.

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**22.** Sivi Varghesea, Georgeb, A.S., Warrierc, A. and Khand, M.S., 2022. Pre-analysis of fire and smoke propagation in a multi-storied building by using FDS software.

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**23.** Naresh K. Kumaran, Ho Cheng How, Girma T. Chala, Poon Han Wong, Edmund De Alwis, Performance Evaluation and Optimization of Advanced Cyclone System for Palm Waste Induced Flue Gas, Petroleum and Coal.

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**24.** Bashir, M.J., Sheen, O.S., Ng, C.A., Abujazar, M.S.S., Alazaiza, M.Y. and Salem S. Abu Amr., 2022. Advanced Treatment of Palm Oil Mill Effluent Using Thermally Activated Persulfate Oxidation. *Separations*, 9(7), p.171. <https://www.mdpi.com/2297-8739/9/7/171>

- 25.** Nor, M.I., Tan, G.K.H., Lim, K.H. and Girma T. Chala, 2022. Assessment of FSAE Car's Rear Suspension Arms for Bump Force. *Journal of Innovation and Technology*, 2022(21), pp.1-6. <http://eprints.intimal.edu.my/1644/>
- 26.** Suvarna Raju, Solomon Raju AJ, 2022. Wasp-pollination in *Premna integrifolia* L. (Lamiaceae) Species, 2022, 23(71), 318-321 [A46.pdf \(discoveryjournals.org\)](https://www.discoveryjournals.org/A46.pdf).
- 27.** Fariz, M., Nasir, M., Mohamad Faizal, A., Muhammad Naim Rabbani, K., Nor, M.I. and Girma, T. Chala, 2022. A Simulation Study of Magnesium Alloy AZ31B Behavior in High-Velocity Impact and Ballistic Limit. *Journal of Innovation and Technology*, 2022(12), pp.1-7. [http://eprints.intimal.edu.my/1623/1/Vol.2022\\_12.pdf](http://eprints.intimal.edu.my/1623/1/Vol.2022_12.pdf)
- 28.** Arwinder Singh, J.S., Nor, M.I., Kavenraj, R. and Girma, T. Chala, 2022. A Study on Separation Efficiency of Multiphase Desander. *Journal of Innovation and Technology*, 2022(19), pp.1-7. [http://eprints.intimal.edu.my/1643/1/Vol.2022\\_19\\_.pdf](http://eprints.intimal.edu.my/1643/1/Vol.2022_19_.pdf)
- 29.** Ghassan et al., 2022. Impact of Surface Temperature of a Photovoltaic Solar Panel on Voltage Production, book chapter in Springer. [https://link.springer.com/chapter/10.1007/978-981-19-6688-0\\_6](https://link.springer.com/chapter/10.1007/978-981-19-6688-0_6)
- 30.** Suvarna Raju P, Henry Jonathan K, Sravan Kumar S, Solomon Raju AJ, 2022 Melittophily and censer seed dispersal mechanism in *Argemone mexicana* L. (Papaveraceae) Species Discovery Journal(ISI,Clavirite). [https://www.discoveryjournals.org/Species/current\\_issue/2022/v23/n71/A36.pdf](https://www.discoveryjournals.org/Species/current_issue/2022/v23/n71/A36.pdf)
- 31.** Kadir Ulutaş, Abbas F. M. Alkarkhi, Sohaib K M Abujayyab and Salem S. Abu Amr., Multivariate Analysis for Air Contamination and Meteorological Parameters in Zonguldak, Turkey, *Jordan Journal of Civil Engineering*, Volume 16, No. 4, 2022.
- 32.** Choo, W.O., Nor, M.I., Wong, W., Xian, Z., Lim, K.H. and Girma T. Chala, 2022. A Study on Multiple Load Conditions Analysis for a Bicycle Chassis. *Journal of Innovation and Technology*, 2022(20), pp.1-6. [http://eprints.intimal.edu.my/1642/1/Vol.2022\\_20.pdf](http://eprints.intimal.edu.my/1642/1/Vol.2022_20.pdf)
- 33.** Ng, Y.L., Aldahdooh, M.A.A., Alazaiza, M.Y., Bashir, M.J., Chok, V.S. and Ng, C.A., 2022. Influence of alum sludge ash and ground granulated blast furnace slag on properties of cement mortar. *Cleaner Engineering and Technology*, 6, p.100376. <https://www.sciencedirect.com/science/article/pii/S2666790821003360#>



**34.** Suvarna Raju P, Solomon Raju AJ, 2022, Floral biology and pollination of *Jasminum angustifolium* Willd. and *J. cuspidatum* Rottler (Oleaceae) , *Species Discovery Scientific Society Journal*, Volume 58, Issue 320, August 2022 *Discovery*, 2022, 58(320), 893-897 Access Link : [A4.pdf \(discoveryjournals.org\)](#).

**35.** Fiseha Guangul and Girma T. Chala, 2022. A Review for Sustainable Electrification of Ethiopia with Hydropower Energy, book chapter in Springer.  
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**36.** Alazaiza, M.Y., Albahnasawi, A., Copty, N.K., Bashir, M.J., Nassani, D.E., Al Maskari, T., Salem S. Abu Amr and Abujazar, M.S.S., 2022. Nanoscale zero-valent iron application for the treatment of soil, wastewater and groundwater contaminated with heavy metals: a review. *DESALINATION AND WATER TREATMENT*, 253, pp.194-210.  
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**37.** Nyakuma, B.B., Ajibade, S.S.M., Adebayo, V.B., Alkali, H., Victor O. Otitolaiye, Audu, J.O., Bashir, F.M., Dodo, Y.A., Mahmoud, A.S. and Oladokun, O., 2022. Carbon dioxide-assisted Torrefaction of Maize Cobs by Thermogravimetry: Product Yield and Energy Recovery Potentials. *Physics and Chemistry of Solid State*, 23(1), pp.16-24.  
<https://journals.pnu.edu.ua/index.php/pcss/article/view/5323>

**38.** Anoop Warriar, Khan Khalid, Nasriani Hamed, Ndlovu Shephard, Chamchine Andrei, Graham Tony L, Asimakopoulou Eleni., Numerical investigation of the effect of ventilation conditions of Externally Venting Flames on curvilinear geometries, *Proceedings of the Tenth International Seminar on Fire and Explosion Hazards*, pp. 394-403.

**39.** Fariz, M., Nasir, M., Hii, T.S., Abdul Rahim, M.S., Nor, M.I. and Girma T. Chala, 2022. Effect of Pot Size in Soil Heat Transfer. *Journal of Innovation and Technology*, 2022(13), pp.1-6.  
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- 42.** Lim, J.W., Yap, D.S., Nor M.I., Timur, I. and Girma, T. Chala, 2022. An investigation of Aerodynamic Improvement on Truck's Forebody. *Journal of Innovation and Technology*, 2022(17), pp.1-7. [http://eprints.intimal.edu.my/1639/1/Vol.2022\\_17.pdf](http://eprints.intimal.edu.my/1639/1/Vol.2022_17.pdf)
- 43.** Eiman Ibrahim and Salem S. Abu Amr, 2022. Evaluation of Fluoride level in Drinking Water Wells and its Effects on Human Health has been published in *Global Scientific Journals, GSJ: Volume 10, Issue 8, August 2022, Online: ISSN 2320-9186.*
- 44.** Alkalbani, A.M., Girma T. Chala, and Myint, M.T.Z., 2022. Insightful study on the effect of zinc oxide nanoparticle diameter on the rheology of water base mud at elevated temperature. *Journal of Petroleum Science and Engineering*, p.110878.  
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- 45.** Suvarna Raju P, Solomon Raju AJ, 2022, Ecological aspects of sexual reproduction in Stinking Passion Flower, *Passiflora foetida* L. (Passifloraceae), Volume 58, Issue 320, August 2022 *Discovery*, 2022, 58(320), 921-925 Access Link : [A8.pdf \(discoveryjournals.org\)](#)
- 46.** M. I. N. Ma'arof, Usman Shahid, Girma T. Chala, Sathurshan Suresh, 2022. Analysis and Optimization of an Aftermarket Intercooler Spray's Nozzle, *International Journal of Emerging Technology and Advanced Engineering*, pp. 94-102.  
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- 47.** Sivi Varghese, V R Renjith, 2022. Prediction of thermal hazards and estimation of fire safety distance of process industry pool fires. *International conference on Sustainable technology and Innovation for Industry 4.0 (icstii 2022).*
- 48.** Motasem Y.D. Alazaiza, Mohammed Shadi S. Abujazar, Salem S. Abu Amr, Mohammed JK Bashir, (2022) Microplastic in the environment: Identification, occurrence, and mitigation measures" *Desalination and Water Treatment*. <https://dx.doi.org/10.5004/dwt.2022.28849>
- 49.** Ali, I., Ahmad, M., Arain, A. H., Atashbari, V., & Asif Zamir, 2022. Utilization of Biopolymers in Water Based Drilling Muds. In (Ed.), *Drilling Engineering and Technology - Recent Advances, New Perspectives and Applications [Working Title]*. IntechOpen.  
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- 50.** Suvarna Raju P, Solomon Raju AJ, 2022. Monoecy and melittophily in *Cardiospermum halicacabum* L. (Sapindaceae) *Species Discovery Journal*, Vol 23(72), 2022, Pages 326-330, access link. [A1.pdf \(discoveryjournals.org\)](#).



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- 52.** Haizatul Hafizah Hussain and Shaharin Anwar Sulaiman, Girma T. Chala, "The Effect of Gas Injection Duration on the Restart Pressure of Waxy Crude Oil Pipeline, Presented at 3rd Asia Pacific Conference on Industrial Engineering and Operations Management, Johor Bahru, Malaysia, September 13-15, 2022." <http://ieomsociety.org/malaysia2022/>
- 53.** Aldahdooh, M.A., Rami Hamad, Bashir, M.J., Bunnori, N.M., Johari, M.A.M. and Almaawali, S., 2022. "Improving Damaged Reinforced Concrete Beam Failure Behavior Using Externally Bonded UHPFRCCs System." *International Journal of Civil Engineering*, pp.1-13.  
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- 54.** Mohammed Shadi S. Abujazar, Sakine Ugurlu Karaağaç, Hamza Ramadan, Salem S. Abu Amr and Motasem Y.D. Alazaiza (2022) "Application of Pinecones Powder as a Natural Coagulants for Sustainable Treatment of Industrial Wastewater" *Desalination and Water Treatment*.  
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- 55.** Shaker Zabadae and Xin Lif Saleh Qanazi, Ihab Hijazi, Anas Toma, Sohaib K. M. Abujayyab, Youness Dehbi, "Covid-19 severity and urban factors: investigation and recommendations based on machine learning techniques," *Palestinian Medical and Pharmaceutical Journal*.
- 56.** Mohd A. Shazwan, Shawkat A. Allybocus, Lim K. Hen, M.I. N. Ma'arof, Girma T. Chala, "Finite Element Analysis of a Wheel Assembly for a Pipeline Corrosion Inspection Robot," *International Conference on Innovation and Technopreneurship, The Dawn of a New Horizon, Restrategising Post COVID 19, ICIT 2021, Nilai, Malaysia.* <https://icit2021.newinti.edu.my/conference>
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- 59.** Choo W. Onn, M.I.N Ma'arof, Winson Z. Xian, Lim K. Hen, Girma T. Chala, A Study On Multiple Load Conditions Analysis for A Bicycle Chassis. International Conference on Innovation and Technopreneurship, The Dawn of a New Horizon, Reostrategising Post COVID 19, ICIT 2021 Nilai, Malaysia.
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- 65.** Arwinder S. Singh, M. I. N. Ma'arof, Suresh Akshith, Girma T. Chala, A Study On Extraction Pipe Insulation for Solidification Prevention of Heavy Crude Oil After Extraction, International Conference on Innovation and Technopreneurship, The Dawn of a New Horizon, Reostrategising Post COVID 19, ICIT 2021, Nilai, Malaysia. <https://icit2021.newinti.edu.my/conference>
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# INTERNATIONAL COLLEGE OF ENGINEERING & MANAGEMENT AND UNIVERSITI TEKNOLOGI PETRONAS, MALAYSIA INK MOU

13 September 2021. The International College of Engineering and Management (ICEM) and Universiti Teknologi Petronas (UTP) signed a Memorandum of Understanding (MoU) to collaborate on various academic and research projects. The Petroleum Nasional Berhad (Petronas) is the sole owner of Malaysia's research university, Universiti Teknologi PETRONAS, which was founded on January 10, 1997. According to the times higher education (THE) world university rankings 2022, the university has established itself as the top research institution in the world in less than 25 years. It is now recognized as Malaysia's top private institution and second overall in the country. In the 2023 QS World University Rankings, it is rated 361st. Furthermore, UTP's research development and commercialization program continue to receive a six-star rating from MyRA, the highest performance level. Both institutions are expected to gain from this MoU by expanding their cooperation efforts to tackle 21st-century challenges and advance society as a whole. This agreement would aid in identifying the forthcoming industrial issues that will affect everyone, as ICEM has proposed solutions to support the realization of Oman Vision 2040.

