Sohar University
AY 2023-2024
"Environment research"

Table 1: List of journal publications by Environment theme researchers

SDG	*Authors*	*Title*	*Journal, Impact Factor & DOI*
6	Rameshwar, S.S., Sivaprakash, B., Rajamohan, N, Vo, D.V.N., Mohamed ,B.A.,	Remediation of tetracycline pollution using MXene and nano-zero-valent iron materials: a review	Environmental Chemistry Letters,21, 2995–3022 (2023) ; IF:15.7 https://doi.org/10.1007/s10311-023-01623-0
6	Mahboobeh Kasraee , Mohammad Hadi Dehghani, Farshad Hamidi , Nabisab Mujawar Mubarak, Rama Rao Karri , Rajamohan, N., Nadeem Hussain Solangi	Adsorptive removal of acid red 18 dye from aqueous solution using hexadecyl-trimethyl ammonium chloride modified nano-pumice	Scientific Reports, Springer Nature;(2023) 13:13833 IF: 4.3 https://doi.org/10.1038/s41598-023-41100-
6,14	Wu, Y., Liu, Y., Kamyab, H., Manivasagan, R., Rajamohan, N., Ngo, G. H., Xia, C.	Physico-chemical and biological remediation techniques for the elimination of endocrine-disrupting hazardous chemicals	Environmental Research, 232,116363 IF : 8.3 https://doi.org/10.1016/j.envres.2023.116363
6	Subrajit Bosu, Rajamohan, N., Su Shiung Lam & Yasser Vasseghian	Environmental Remediation of Agrochemicals and Dyes Using Clay Nanocomposites: Review on Operating Conditions, Performance Evaluation, and Machine Learning Applications	Reviews of Environmental Contamination and Toxicology, 261,17,2023 IF:6.0 6 https://doi.org/10.1007/s44169-023-00043-z
6	Sarojini Gopalakrishnan , Pownsamy Kannan , Kuppusamy Balasubramani , Rajamohan , N., Manivasagan Rajasimman	Sustainable remediation of toxic congo red dye pollution using bio based carbon nanocomposite: Modelling and performance evaluation	Chemosphere, 343,140206 IF:8.8 https://doi.org/10.1016/j.chemosphere.2023.140206
9	Ihsan, S, Saqib, S., Rashid, H. A. M., Niazi, F. S., Qureshi, M. U.	Predicting blast-induced ground vibrations at limestone quarry from artificial neural network optimized by randomized and grid search cross-validation, and comparative analyses with	Geomechanics and Engineering IF:3.2 https://doi.org/10.12989/gae.2023.35.2.121

		blast vibration predictor models	
6	Ehsan Mirzania., Roshni Thendiyath., Mahsa H. Kashani., Osama Ragab	Forecasting of lake water level based on a hybrid model of innovative gunner algorithm	Acta Geophysica IF :2.3 http://doi.org/10.1007/s11600-023-01169-3
11	Abdullah, M.; Ali, N.; Javid, M.A.; Aslam, M.W.; Dias, C.	Signal-Free Corridor Development and Their Impact on Pedestrians: Insights from Expert and Public Surveys	Sustainability 2023, 15(19), 14480 IF:3.9 https://doi.org/10.3390/su151914480
13	Cham Q. Pham, Mabkhoot Alsaiari, Nguyen Huu Hieu, Thuy-Phuong T. Pham, Duy Ha Le Phuong, Rajamohan, N., H. D. Setiabudi, Dai-Viet N. Vo, Thanh H. Trinh, Phuong T.H. Pham & Tung M. Nguyen.	Efficient Methane Dry Reforming Process with Low Nickel Loading for Greenhouse Gas Mitigation	Topics in Catalysis(2023) IF:3.6 https://doi.org/10.1007/s11244-023-01881-w
6	Subrajit Bosu , Rajamohan, N , Suresh Sagadevan , Niti n Raut	Biomass derived green carbon dots for sensing applications of effective detection of metallic contaminants in the environment	Chemosphere,140471 IF:8.8 https://doi.org/10.1016/j.chemosphere.2023.140471
6	Abrar Said Saif Al Ajmi, Subrajit Bosu, Rajamohan ,N	Biomass - metal oxide nano composite for the decontamination of phenol from polluted environment - parametric, kinetics and isotherm studies	Environmental Research, 240,117467 IF:8.3 https://doi.org/10.1016/j.envres.2023.117467
11	Javid, M.A., Tahir, Q., Ammar, M.M., Khan, B.A., Mehdi, Y., Ali, N.	Customers' Satisfaction and Intentions with Public Transportation in Faisalabad, Pakistan: Implications for a Bus Rapid Transit Service	Transactions on Transport Sciences DOI: 10.5507/tots.2023.018
9	Salma Mohammed Al Maghawry, Osama Ragab, Yara Gamil, Ruqaya Al Sheikh	Comparing between the Flexible Pavement Design Methods Based on Durability and Cost-Effectiveness	Civil Engineering and Architecture Vol. 11(6), pp. 3775 – 3788 10.13189/cea.2023.110639
9	Osama Ragab, Ebrahim Saeed Ebrahim Saeed, Mohammed Mahmoud Al Hawawsha, Salma Mohammed Al Maghawry	Natural Coarse Aggregate Modified By Waste Steel Slag And Its Application In The Subbase Of Highway In Oman	Jilin Daxue Xuebao (Gongxueban)/Journal of Jilin University (Engineering and Technology Edition), Vol: 42 Issue: 10-2023, pp. 1-23 10.5281/zenodo.10012099
9	Naveed M, Hameed A, Qureshi M. U., Rasool A. M.	Optimization of constituent proportions for compressive strength of sustainable geopolymer concrete: A statistical approach	Results in Engineering – Elsevier IF: 5.0 10.1016/j.rineng.2023.101575

6	Pandiyarajan, A., Venkateshbabu, S., Sarojini, G, Rajamohan,N., M.Rajasimman	Valorization of Biowaste for Nanocomposite Synthesis and Its Application for the Environmental Remediation of Bisphenol A: Optimization, Model Evaluation and Docking Studies	Waste and Biomass Valorisation (2023). IF:3.2 https://doi.org/10.1007/s12649-023-02316-z
7	Puchakayala , H.C, Viswanathan ,A. , Abrar ,I., N. Rajamohan	Maximizing the potential of biodiesel through nanoparticle assistance: A review of key factors affecting performance and emissions	Sustainable Energy Technologies and Assessments, 60, 103539 IF:8 https://doi.org/10.1016/j.seta.2023.103539
13	Phuong, D.H.L.,, Alsaiari, M., Pham, C.Q., Hieu, N.U., Pham, T.P.T., Rajamohan, N., Pham, D.D., Vo, D.V.N., Trinh, T.H., Setiabudi, H.D., Nguyen, D.L.T., Nguyen, T.M.	Carbon dioxide reforming of methane over modified iron-cobalt alumina catalyst: Role of promoter	Journal of the Taiwan Institute of Chemical Engineers, 150, 105253 IF:5.7 https://doi.org/10.1016/j.jtice.2023.105253
13	Cao, A.N.T., Ng, K.H., Ahmed, S.F., Nguyen, H.T., Kumar, P.S., Tran, H.T., Rajamohan, N., Yusuf, M., Show, P.L., Balakrishnan, A. and Bahari, M.B.	Hydrogen generation by heterogeneous catalytic steam reforming of short-chain alcohols: a review	Environmental Chemistry Letters,1-23 (2023) IF:15.7 https://doi.org/10.1007/s10311-023-01673-4
13	Mohamed, B. A., Ruan, R., Bilal, M., Periyasamy, S., Awasthi, M. K., Rajamohan, N., & Leng, L	Sewage sludge co-pyrolysis with agricultural/forest residues: A comparative life-cycle assessment	Renewable and Sustainable Energy Reviews, 192 (March 2024),114168 IF:15.9 https://doi.org/10.1016/j.rser.2023.114168
6	Sujatha, S., Rajamohan, N., Sanjay, S., Abhishek, R., & Rajasimman, M.	Sustainable remediation of pesticide pollutants using covalent organic framework–A review on material properties, synthesis methods and application	Environmental Research, 246, 118018 IF:8.3 https://doi.org/10.1016/j.envres.2023.118018
6	Bosu, S., Rajamohan, N., Al Salti, S., Rajasimman, M., & Das, P.	Biodegradation of chlorpyrifos pollution from contaminated environment-A review on operating variables and mechanism	Environmental Research, 246, 118212 IF:8.3 https://doi.org/10.1016/j.envres.2024.118212
6	Ezaier, Y., Hader, A., Latif, A., Khan, M. E., Ali, W., Ali, S. K., Bashiri, A.H., Zakri, W., Yusuf, M., Rajamohan, N.& Ibrahim, H.	Solving the fouling mechanisms in composite membranes for water purification: An advance approach	Environmental Research, 250, 118487 IF:8.3 https://doi.org/10.1016/j.envres.2024.118487
9	Sameen Zafar, Muhammad Abdullah, Muhammad Ashraf Javid, Nazam Ali	Assessing the determinants of crash propensity using structural	Journal of Safety Research IF:4.1

		equation modeling: Role of distractions caused by fellow drivers	https://doi.org/10.1016/j.jsr.2024.02.012
6	Saif Al Essai, K.R., Moheyelden, R.E., Bosu, S., Rajamohan, N, . Rajasimman, M	Enhanced mitigation of acidic and basic dyes by ZnO based nano-photocatalysis: current applications and future perspectives.	Environmental Geochemistry and Health,46,139,2024 IF:4.2 https://doi.org/10.1007/s10653-024-01935-2
7	Sivanesan, J., Vijayalakshmi, A., Sivaprakash, B., Rajamohan, N	Biohythane as a sustainable fuel- A review on prospective synthesis based on feedstock preprocessing, optimization approach and circular economy concept	Process Safety and Environmental Protection,2024 IF:7.8 https://doi.org/10.1016/j.psep.2024.03.062
6	Sulaiman, J.M., Rajamohan, N, Yusuf, M., Kamyab, H	Nanocomposite ceramic membranes as novel tools for remediation of textile dye waste water – A review of current applications, machine learning based modeling and future perspectives	J of Environmental chemical engineering,12(2), 112353 IF:7.7 https://doi.org/10.1016/j.jece.2024.112353
9	Gadagi, A., Sivaprakash, B., Adake, C., Deshannavar, U., Hegde, P. G., Santhosh, P., Rajamohan,N., & Osman, A. I	Epoxy composite reinforced with Jute/Basalt Hybrid–Characterisation and performance evaluation using Machine Learning Techniques	Composites Part C IF:4.2 https://doi.org/10.1016/j.jcomc.2024.100453
6	Akash, S., Rameshwar, S. S., Rajamohan, N, Rajasimman, M., & Vo, D. V. N	Metal oxide nanobiochar materials to remediate heavy metal and dye pollution: a review	Environmental Chemistry Letters,1-22 (2024) IF:15.7 https://doi.org/10.1007/s10311-024-01724-4
6	Balasubramani, K., Sarojini, G., Sivarajasekar, N., Rajamohan, N.(Corr author), Rajasimman, M., Yusuf, M., & Kamyab, H.	Valorization of sugarcane bagasse cellulose to synthesize novel Graphene oxide-based composite for remediation of atrazine–optimization studies	J of Environmental chemical engineering, 112767 IF:7.7 https://doi.org/10.1016/j.jece.2024.112767
6	Omar, N. M. A., Othman, M. H. D., Tai, Z. S., Kurniawan, T. A., Puteh, M. H., Jaafar, J., ... & Wong, K. Y. (2024).	Recent strategies for enhancing the performance and lifespan of low-cost ceramic membranes in water filtration and treatment processes- A review.:	Journal of Water Process Engineering, 62, 105399. IF:7.0 https://doi.org/10.1016/j.jwpe.2024.105399
7	Mohammadi, M., Ghasemi, M., & Sedighi, M..	Comparative study of energy production and treatment of municipal and dairy wastewater via microbial fuel cell technology: process	Biomass Conversion and Biorefinery, 14(5), 6285-6298. IF:4.0 https://doi.org/10.1007/s13399-022-02979-z

		evaluation towards optimization	
7	Ghasemi, M., & Rezk, H..	Performance improvement of microbial fuel cell using experimental investigation and fuzzy modelling	Energy, 286, 129486. IF:9.0 https://doi.org/10.1016/j.energy.2023.129486
6	Al Balushi, F., Ibrahim,O., Rajamohan, N	Sustainable treatment of landfll leachate: a review on methods	International Journal of Environmental Science and Technology , 2024 IF:3.1 https://doi.org/10.1007/s13762-024-05679-5

Table 2: List of ongoing projects

SDG	PI/Mentor/Supervisor	Title of the project	Funding Body
9	Dr. Mohsin Usman. Qureshi	R & D and pilot project to convert Pdo waste to Concrete and Asphalt	PDO (Consultancy)
15	Dr. Nitin Bhaurao Raut	Waste Electrical and Electronic Equipment (WEEE) Quantification and Characterization	Be'AH (Consultancy)
13	Professor Rajamohan	Sustainable technology for integrated production of food in a renewable energy-based demonstrator growing system using novel Oman agro-residue based growth media and smart irrigation system	MoHERI ,Oman (RG)
9	Dr Wadhah Tawfeeq,	Performance of concrete filled stainless steel tube beam made by recycled aggregate and ferrochrome slag	MoHERI ,Oman (RG)
7	Mentor: Dr Nitin Bhaurao Raut (Student: Jasim Al Shehhi)	An innovative approach to floating head biodigesters design and operation	MoHERI , Oman (GRG)
6	Mentor: Professor Rajamohan (Student: Abrar Al Ajmi)	Sustainable eco-friendly treatment technology for Oil produced water using Omani clay based nano-composite	MoHERI , Oman (GRG)
7	Dr Vinod Kumar Professor Rajamohan	Development of a Novel Hybrid Nanofluid-Microfins based Cooling Technique for Solar Photovoltaic-Thermal Systems in Oman	MoHERI , Oman (RG)
7	Professor Rajamohan (Student: Maitha Al Balushi)	Biodiesel production from wastewater using a novel reactor – concept of energy from waste	MoHERI , Oman (URG)

11	Dr Jabar Yousif, Professor Rajamohan	Fuzzy Logic and Deep learning approach to analyze and predict pollutants emission levels and examine its risk at industrial zones.	MoHERI , Oman (RG)

Table 3: Joint publications of Environment theme researchers with students

Sr. No	*Authors*	*Title*	*Journal, Impact Factor & DOI*
6	**Subrajit Bosu,** Rajamohan, N., Su Shiung Lam & Yasser Vasseghian	Environmental Remediation of Agrochemicals and Dyes Using Clay Nanocomposites: Review on Operating Conditions, Performance Evaluation, and Machine Learning Applications	Reviews of Environmental Contamination and Toxicology, 261,17,2023 IF:6.0 https://doi.org/10.1007/s44169-023-00043-z
6	**Subrajit Bosu ,** Rajamohan, N , Suresh Sagadevan , Nitin Raut	Biomass derived green carbon dots for sensing applications of effective detection of metallic contaminants in the environment	Chemosphere,140471 IF:8.8 https://doi.org/10.1016/j.chemosphere.2023.140471
6	**Abrar Said Saif Al Ajmi, Subrajit Bosu,** Rajamohan ,N	Biomass - metal oxide nano composite for the decontamination of phenol from polluted environment - parametric, kinetics and isotherm studies	Environmental Research, 240,117467 IF:8.3 https://doi.org/10.1016/j.envres.2023.117467
9	**Salma Mohammed Al Maghawry,** Osama Ragab, Yara Gamil, Ruqaya Al Sheikh	Comparing between the Flexible Pavement Design Methods Based on Durability and Cost-Effectiveness	Civil Engineering and Architecture Vol. 11(6), pp. 3775 – 3788 10.13189/cea.2023.110639
9	Osama Ragab, Ebrahim Saeed, Mohammed Mahmoud Al Hawawsha, **Salma Mohammed Al Maghawry**	Natural coarse aggregate modified by waste steel slag and its application in the subbase of highway in oman	Jilin Daxue Xuebao (Gongxueban)/Journal of Jilin University (Engineering and Technology Edition), Vol: 42 Issue: 10-2023, pp. 1-23 10.5281/zenodo.10012099
6	**Bosu, S.,** Rajamohan, N., Al Salti, S., Rajasimman, M., & Das, P.	Biodegradation of chlorpyrifos pollution from contaminated environment-A review on operating variables and mechanism	*Environmental Research, 246, 118212* IF:8.3 https://doi.org/10.1016/j.envres.2024.118212
6	**Saif Al Essai,** K.R., Moheyelden, R.E., Bosu, S., Rajamohan, N, . Rajasimman, M	Enhanced mitigation of acidic and basic dyes by ZnO based nano-photocatalysis: current applications and future perspectives.	Environmental Geochemistry and Health,46,139,2024 IF:4.2 https://doi.org/10.1007/s10653-024-01935-2
6	**Sulaiman, J.M.,** Rajamohan, N, Yusuf, M., Kamyab, H	Nanocomposite ceramic membranes as novel tools for remediation of textile dye waste water – A review of current applications, machine	Journal of Environmental chemical engineering,12(2), 112353 IF:7.7 https://doi.org/10.1016/j.jece.2024.112353

		learning based modeling and future perspectives	
6	**Al Balushi, F.,** Ibrahim,O., Rajamohan, N	Sustainable treatment of landfill leachate: a review on methods	International Journal of Environmental Science and Technology, 2024 IF:3.1 https://doi.org/10.1007/s13762-024-05679-5

Table 4: List of collaborations by Environment theme researchers

SDG	External Collaborator	Meeting
6,13	Environment Authority of Oman, Government of Oman	The SU team involving Environment theme researchers met the Environment authority delegation and discussion on collaboration in the area of air quality monitoring was initiated.
6	Universiti Kebangsaan Malaysia (UKM), Malaysia	The SU team involving Environment theme researchers met the UKM, Malaysia, delegation, in an online meeting and discussion on collaboration in the area of Sustainable environment was initiated.
6,9	External/International examinership	• Professor Rajamohan is nominated as an International examiner for evaluating PhD (Chemical Engineering) thesis in VIT University, India • Dr Mohsin Qureshi has acted as an International examiner for evaluating PhD (Civil Engineering) thesis in Griffiths University, Australia.

Table 5: Best practices followed by Environment theme in RD

SDG	Event/ Activity conducted	Description
13,15	SDG Hands on workshop on Waste Paper recycling	The SDG Workshop on "Waste Paper Recycling for Engineering a Greener Future", was organized successfully on March 21st, 2024, organized by the Environment Research theme, Faculty of Engineering, Sohar University (SU). The workshop involved exciting presentations by the organizers, creative poster displays by enthusiastic students, impactful hands on activities and discussions to create a sustainable campus at Sohar University. There are 63 participants which involved students and staff from Faculty of Engineering. The organizing team comprising of Environmental theme researchers, namely Professor Rajamohan, Dr Amal Al Saadi, Dr Nitin Raut , Dr Osama Ibrahim, Ms Manal Al Maqbali and Ms Hajir Al Hindasi, provided hands-on training to the students on wastepaper recycling methods. Professor Ghassan Al Kindi, Pro-VC, Research and Innovation, briefed the importance of resource conservation and recycling as a potential direction for SU research and commitment to national development. Professor Wan Hamidon, Dean, FE, briefed the need of the workshop in enhancing the knowledge related to sustainability and attainment of employability skills. Professor Rajamohan, Environment theme leader, detailed the plan of Environment theme in delivering a variety of extra-curricular events to enhance the awareness and commitment to sustainable environment . Dr Nitin Raut and Dr Amal Al Saadi, presented interesting presentations on the waste paper recycling methods and need for reducing the carbon foot print .This workshop enhanced the graduate attributes related to entrepreneurship. 21st century skills and life long learning. The activities involved in the workshop are aligned to the SDGs, namely, SDG 12 :Responsible Consumption & Production, and SDG 9: Industry, Innovation and Infrastructure. This workshop The academic staff from FE ,Prof Kelvin Bwalya, Head, RDD participated in the event. The Environment theme strives to provide the best learning experience and instill the high priority skills related to Sustainability, Oman 2040 vision and entrepreneurship.
9	SDG Workshop on Sustainable construction material	The Faculty of Engineering organised a Workshop on "Sustainable Construction Materials"On World Engineering Day, the Faculty of Engineering at Sohar University hosted its inaugural 'Sustainable Construction Materials' workshop. This significant event brought together 45 participants, including civil engineers from Petroleum Development Oman, local officials from Sohar Municipality, and a mix of students and alumni from Sohar University and other Higher Education Institutions (HEIs). The workshop commenced with opening remarks by the Pro Vice Chancellor, Professor Ghassan Al Kindi, followed by an insightful address from the Dean of Engineering, Professor Wan Hamidon, who elaborated on the critical role of Sustainable Development Goals (SDGs) in engineering. Dr. Mohsin Qureshi presented his experimental findings on the utilization of industrial by-products in various civil engineering applications, aiming to contribute to the United Nations SDG-Goal 12 – Responsible Consumption & Production, as well as the Oman Vision 2040 Indicator for Environmental and

		Natural Resources. Following him, Dr. Wadhah Tawfeeq highlighted the significance of green concrete, and Dr. Arshaf Javid introduced the new pavement design methodology known as Superpave Asphalt Specifications.
13,15	“Eco-Renewal Incubator"	Proposing an “Eco-Renewal Incubator" aims to achieve sustainability goals by creating a joint effort with faculty members and students from various faculties at Sohar University. The Eco-Renewal Incubator's mission is to address environmental preservation and waste management challenges within and outside Sohar University. At its core, the Eco-Renewal Incubator is an all-encompassing approach to repairing, refurbishing, recycling, and handling different kinds of waste, including paper, food waste, electronic equipment, and wastewater. Through this ambitious execution, Sohar University can reduce its carbon footprint and position itself as a pioneer in sustainability activities for higher education by positioning itself as a "Carbon Sink." In the Eco-Renewal Incubator Phase 1 WEEE, Faculty members, engineering students, and professional technicians (SU employees) comprise the team. Together, they examine and assess waste to determine if it can be disassembled, refurbished, or restored. Ultimately, the incubator’s specific members and course coordinators, who help the students submit them for credits towards assignments, lab reports, and project work, analyse the documents produced by these teams. The Eco-Renewal Incubator emphasizes multidisciplinary cooperation and experiential learning. This gives students the chance to use their skills and knowledge in experiences that practically apply to the world they reside in. These activities enhance the academic and professional growth of the students. Apart from the educational benefits it provides, the Eco-Renewal Incubator is proposed to be set up to influence society and the academic community positively. As Sustainability Ambassadors, students from various disciplines, including engineering, business, information technology, education, and English, cooperate to encourage sustainable behaviour within the Sohar University community and the surrounding area. **Framework of Eco-Renewal Incubator**
15,13	Student participation and achievements in competitions	The Chemical engineering students team supervised by Professor Rajamohan , Faculty of Engineering, Sohar University, won the “FIRST PRIZE” in the Oman IoT & AI Challenge ,organized , by UTAS Shinas, Oman, on May 8,2024. Their project is focused on "Sustainable innovation for Water- Energy - Food Nexus – Integration of IoT , Smart sensor and eco-friendly material". The competition had participation from 52 projects, 12 start up ideas and 18 various HEIs.

6,7,9,13	SURC 2024-Environmental Sustainability session	• The Environmental Sustainability session of SURC2024 was chaired by the theme leader, Professor Rajamohan Natarajan. The Keynote address was delivered by Prof Eldon R Rene, IHE DELFT, Netherlands. There are 16 oral presentations delivered during the session conducted in two schedules, namely Session 1: 12:00 – 13:30 and Session 2 : 14:00 – 17:30 • The presenters included international representation from Saudi Arabia , UAE and Netherlands. • Industrial participants from PDO(Oman) and ADNOC (UAE) added good value to the conference. • The average attendance for the sessions was 30 (24 in-person and 6 online) . • The presenters from Oman HEIs included UTAS-Salalah, UTAS- Muscat, and UTAS- Shinas. • All SU presentations are very impactful and aligned to SDGs and Oman 2040 vision. • The interdisciplinary presentations by the Faculty of Business (SU) and Faculty of Law (SU) are good signs for SU collaborative research.SU colleagues belonging to Environment research theme participated actively in the sessions.
6,7,13	Editorial Board membership	1. Professor Rajamohan Natarajan – Nominated as " Associate editor" in the well-recognised Springer Journal, Environmental Geochemistry and Health (EGAH). https://link.springer.com/journal/10653/editors 2. Dr Mostafa Baboli – Nominated as Associate Editor in Springer Nature publication (Disover Applied Science). https://link.springer.com/journal/42452/editors).